THE BUILDER
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VOL. CL. MAY 1 1936 No. 4865

R.M.S. "QUEEN MARY": Carved and Pierced Screen in Cabin Smoking Room, Promenade Deck.

By MR. JAMES WOODFORD.

MEETINGS

FRIDAY AND SATURDAY, *May* 1 *and* 2.

Royal Sanitary Institute. Friday: Mr. R. C. Aldous, Deputy City Engineer, and Mr. A. Wade on "The Survey of Overcrowding." At the Guildhall, Nottingham. 4.45 p.m. Saturday: Visits to Municipal Undertakings. 9.45 p.m.

MONDAY, *May* 4.

Society of Chemical Industry (*London Section*). Annual General Meeting; and Dr. A. Parker on "Water Pollution Research." At Burlington House, W.1. 8 p.m.

Chartered Surveyors' Institution. Sir Lynden Macassey on "Surveyors and the Law." 6.30 p.m.

Royal Society of Arts. Dr. R. E. Stradling on "Problems of Road Research." 8 p.m.

MONDAY-WEDNESDAY, *May* 4-6.

University of London. Professor R. M. Butler on "Early and Mediæval Irish Architecture." 5.15 p.m.

TUESDAY, *May* 5.

Chartered Surveyors' Institution (*London* (*South-Western*) *Branch*). Annual General Meeting. At 12, Great George-street, S.W.1. 5 p.m.

WEDNESDAY, *May* 6.

Chartered Surveyors' Institution (*Yorkshire Branch*). Annual Meeting. At Leeds.

THURSDAY, *May* 7.

Society of Antiquaries. Dr. W. M. Whitehill, F.S.A., and Mr. A. W. Clapham on "The Early Tenth-century Church at Quintinilla de las Veñas, Spain"; and Mr. J. G. Mann on "The Visor of a Hounskull found at Pevensey Castle." 8.30 p.m.

FRIDAY, *May* 8.

Institution of Sanitary Engineers. Mr. F. M. Lea on "The Deterioration of Concrete due to Chemical Attack." At Caxton Hall, S.W.1. 6 p.m.

Architectural Association. Dinner to Mr. Howard Robertson. At the Savoy Hotel, W.C.2. 7.30 p.m.

MONDAY, *May* 11.

Royal Institute of British Architects. One Hundred and Second Annual General Meeting. Discussion of Annual Report. 8 p.m.

Chartered Surveyors' Institution (*Cambridge, Huntingdon, Norfolk and Suffolk Branch*). Meeting. At King's Lynn.

Chartered Surveyors' Institution (*Warwick, Staffs and Worcester Branch*). Annual General Meeting. At the Grand Hotel, Birmingham. 5.15 p.m.

University of London. Professor F. M. Jaeger on "Researches in the Specific Heats of Metals and their Alloys at High Temperatures." 5.30 p.m.

TUESDAY, *May* 12.

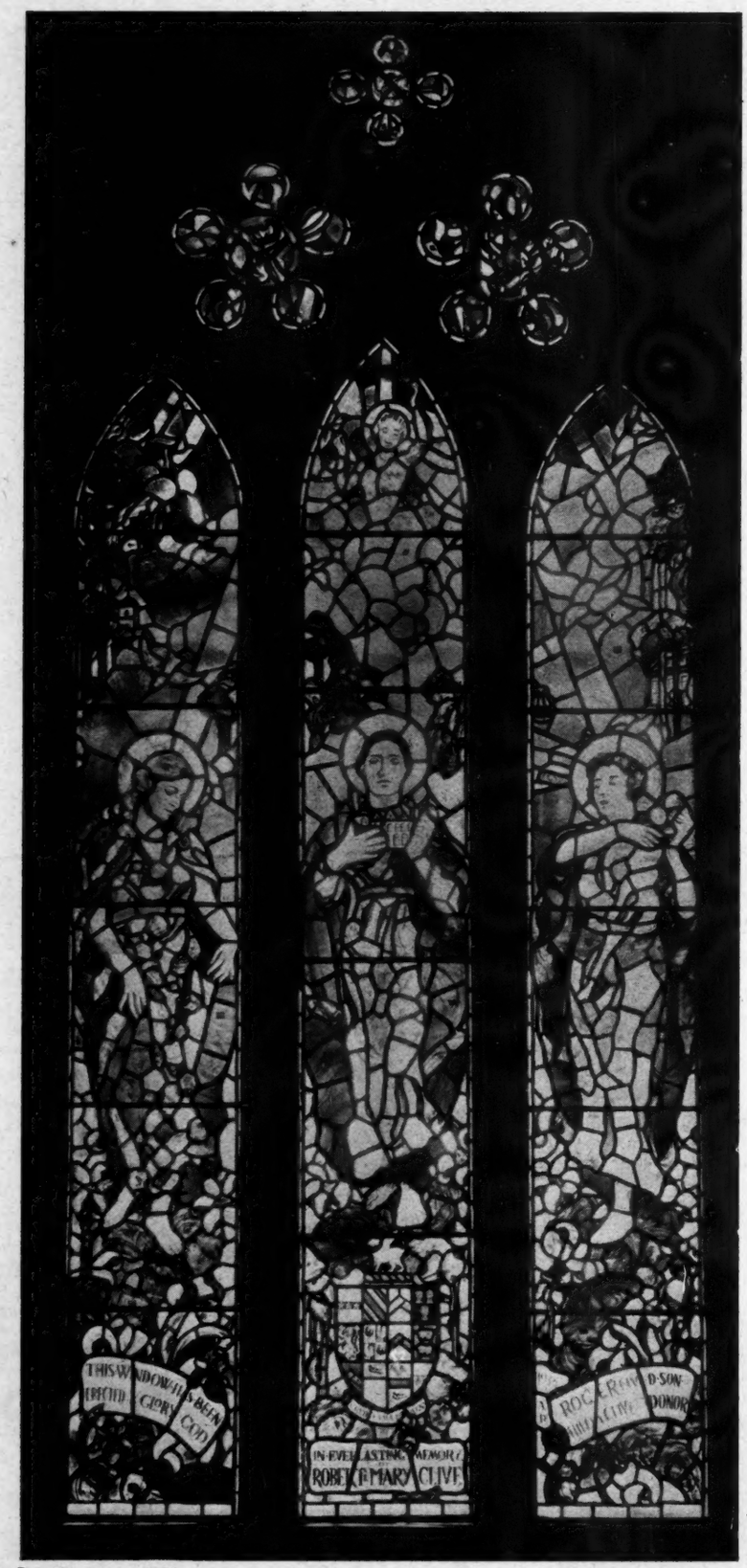
Chartered Surveyors' Institution. Annual Dinner. At the Grosvenor House Hotel, W.1.

Illuminating Engineering Society. Annual Meeting. Dr. Morry Cohn on "Progress in Illumination in France." At the Institution of Mechanical Engineers, Storey's-gate, S.W.1. 7 p.m.

University of London. Professor Patrick Abercrombie on "Planning in Town and Country: Difficulties and Possibilities." 5.30 p.m.

THURSDAY, *May* 14.

Society of Antiquaries. Mr. B. H. St. J. O'Neil on "The Caeran Ancient Village, Caernarvonshire"; and Mr. F. Cottrill on "Recent Discoveries of the Roman Wall of London at Tower Hill." 8.30 p.m.



R.A. Exhibition, 1936.

STAINED GLASS WINDOW FOR HARTSHILL CHURCH, STOKE-ON-TRENT.

Designed and executed by MR. LEONARD WALKER, R.I.

(See page 865.)

LIBRARIES

"OF making many books there is no end"; and no end, presumably, in the provision of buildings to accommodate them. Mr. Harold Dod, in his valuable paper on "Library Planning," read recently before the R.I.B.A., gave a clear insight into the problem of accommodation presented by the ever-increasing number of books and periodicals. "The flood of literature poured out from the printing presses," he said, "has passed all bounds and filled to overflowing even the world's largest libraries, to the despair of the conscientious librarian, who dare not destroy a single volume." At the same time there has been a great increase in the number of readers.

So great has become the congestion of books that many important libraries have had to build extra storage accommodation, sometimes at an inconvenient distance from the main building. In some instances—notably Manchester and Sheffield—city authorities have courageously erected great new buildings that will satisfy the demand for space for many years to come. Even in these cases, however, a time is almost certain to arrive when the available space will be filled, and the problem of further accommodation will again have to be faced.

It is obvious, therefore, that in regard to the greater public libraries, university, institutional and other special libraries, the problem of storage is the main difficulty. The book stack has for some time past shown signs of "getting out of hand." From being a comparatively minor feature of library accommodation it has become far and away the largest, until, as Mr. Dod observed in his paper, Continental library experts hold that a large library must be "planned from the book stacks."

British practice, hitherto, has been to make the stacks an integral part of the library building. The late Mr. Dunbar Smith's Armstrong College Library, Newcastle-on-Tyne (by general consent a most successful scheme), has book stacks not only adjacent to the reading room on the ground-floor, but also occupying almost the whole of the lower ground-floor as well as a large part of the first-floor. In some instances, where the stacks are on two or more floors, book lifts are provided (as they invariably should be), and it has been suggested that passenger lifts would be better still, by saving assistants much running up and down stairs.

On the subject of book transport, it is interesting to note that in some large libraries the books are brought from the stack to the point of issue by conveyors. This system has been objected to on the ground that it is too reminiscent of a mass-production motor-car factory; but it undoubtedly saves a good deal of time and running about, and is, after all, no more than a horizontal application of the lift.

The English type of plan, to which we have referred above, may well be superseded in the case of large libraries, if Continental practice is any guide to the future. In the Swiss National Library at Berne, for instance (some drawings of which are reproduced this week), the stack, nine stories high, forms the dominating feature of the design, the main reading room, the catalogue room, the periodical room, and also an exhibition room being arranged in a single top-lighted block placed in front of the stack, and running lengthwise with it. The tendency must be for the stack to become larger and larger, and it may be that the problem which it presents will ultimately be solved by some system of unit construction, capable of almost indefinite expansion or modification to suit changing requirements. The problem of the satisfactory architectural treatment of such disparate main elements—one tending to overwhelm the other—is one that should make a strong appeal to the imaginative architectural mind. Whatever may be the line of development in this country, it is clear that library plans should have a much greater flexibility than they have had hitherto, if reasonable provision is to be made for future expansion.

The problems of the great library, however, do not closely concern the average architect. The small public library is the type of work that is most likely to come his way, and even here changes are taking place that are worth recording. For example, the open access system, although it may be disappearing in other countries, appears to be well on the way to becoming normal practice here. Most modern plans have central supervision, from which clear views may be obtained through glass doors or partitions into the various departments; while the radial arrangement of shelves in the lending room, although it may be wasteful of space and not particularly pleasing to the eye, seems to serve the practical requirements to the satisfaction of librarians.

Attention may be called, also, to the great increase in the number of branch libraries, as a result of the growth of suburban areas and the development of new housing estates. One point of interest in regard to these minor buildings is the tendency to abolish the news and periodical room, which, however, still remains an important and useful feature of central libraries. In several instances, where a large permanent library is not at the moment justified, small semi-permanent buildings have been erected at a cost varying from £1,700 to £3,500—accommodating from five to ten thousand books. Several of these small buildings, consisting simply of a stack room and a reading room, have been erected from the designs of architects, and form attractive architectural features of these new estates. There are, however, still many areas in which the only facilities for book-borrowing are provided by distant county and other libraries, involving journeying and expense to borrowers, and it is in such areas that the cheap semi-permanent library would be a great convenience to residents. We hope that local authorities may see their way to provide many more little libraries of this type.

Public libraries are sometimes planned nowadays in conjunction with a lecture hall, which is often a desirable adjunct. There is an instance, also, of a library planned as part of a shopping centre, the ground-floor story consisting of shop fronts. We do not regard this as desirable practice. A library should proclaim itself what it is, and not pretend to be something else.

The plan of the small public library is usually quite efficient, but a good deal could be done to improve the appearance of interiors. The abolition, where possible, of solid interior walls, for example, and the substitution of glazed screens, where necessary, would give an effect of lightness and openness that many library experts regard as desirable. The problem of noise reduction is also one that needs close study, particularly in relation to reading rooms. There might well be an increase in the use of sound-absorbent materials in interiors where quiet is essential.

The present moment is particularly appropriate for a thorough investigation into the whole problem of library planning, design and construction, and for a complete overhaul of accepted standards and methods. Many libraries will have to be extended or completely remodelled in the near future; large numbers of new ones—special, central, branch, and semi-permanent—will have to be built, and in every case the problem of future accommodation must be a foremost consideration. Few library undertakings present identical problems, and few sites allow of ideal treatment, but in every case some provision for future expansion is a necessity. Flexibility in planning, to allow for change and expansion, has become a primary and outstanding requirement in library design, and it is here, as in other buildings, that the ingenuity of the architect will come into play.

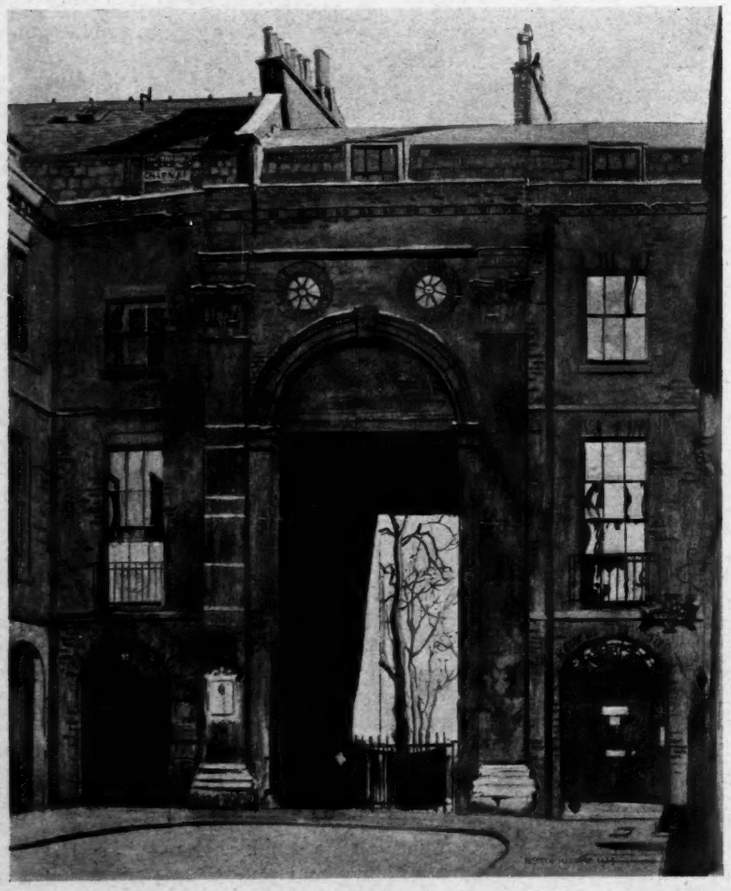
NOTES

Architecture at the Royal Academy.

THE first impression on entering the Architectural Room at the Royal Academy this year is that the works are well spaced and hung, the effect being restful and pleasing; and the second that the exhibits, as a whole, show a good standard of design and representation. Without doubt the most important and striking design is that of the new Government offices, Whitehall, by the recently elected A.R.A., Mr. Vincent Harris—shown in a remarkably fine drawing by Mr. Walcot. Mr. Harris's task was a difficult one, and he has accomplished it in an efficient way. One is better able to judge the design from the drawing than from the recent Press illustrations, and the good impression then formed will, we believe, be confirmed. Mr. Curtis Green's Scotland Yard extension scheme is a scholarly design of excellent proportion, which is in harmony with Mr. Harris's work, which it will adjoin. Amongst Sir Edwin Cooper's exhibits, the new Crematorium, East Finchley, will be noted. It is a well laid out scheme, with refined elevational treatment, and well-proportioned tower. A second exhibit by Sir Edwin is the design for the Health Centre, Grove-road, N.W., for the borough of Marylebone, a brick building with tile roof, of excellent proportion and simple treatment, with three-ringed brick arched entrance. Mr. Dawber's diploma work, "Ashley Grange, Dorset," is a good example of his domestic work—a house which would set well and harmonise with the landscape. Sir Edwin Lutyens is not represented this year, but Sir Giles Scott shows his designs for Messrs. Guinness' brewery and new show rooms, and offices for the Bristol Corporation: both works suggest an appropriateness for their object or purpose. Sir Reginald Blomfield is represented by three drawings, the principal one being "Design for the Completion of Piccadilly Circus." Extreme "modernistic" work is conspicuous by its absence, but the general impression is one of good standard of work, broad in character and devoid of over-dressing. The perspective artists have in most cases ably assisted the architects of the designs shown, but it is pleasing to note that some architects are able to make their own drawings. In our next issue we shall publish a selection of the drawings and a general review.

The Paris International Exhibition.

THE Paris International Exhibition to be held next year will improve the French capital considerably from the architectural point of view. This exhibition will cover an area of over 130 acres, spreading away from the two banks of the Seine, from the Place de la Concorde to the Pont de Grenelle, over a distance of more than two miles. The river will thus form its main axis. A secondary axis, perpendicular to the Seine, will extend from the Place du Trocadéro to the Champ-de-Mars, taking in the Eiffel Tower. Another section will extend up to the Porte Maillot. Some of the most beautiful points of the city are included in the exhibition grounds, of which the centre will be the Grand Palais, the Cours-la-Reine, the two new museums on the Quai de Tokio and the Esplanade des Invalides. From the Porte Maillot and the Trocadéro, it will reach out to the Bois de Boulogne and the Etoile. The Champs-Elysées will skirt it from the Concorde, and the Grands Boulevards and the Madeleine, the Tuileries, the Louvre and the Palais-Royal will be near at hand.



GATEWAY, ESSEX STREET, STRAND.
From an oil painting by MR. HESKETH HUBBARD, R.O.I., R.B.A.

Exhibition Memorials.

AN official statement of the British Chamber of Commerce in Paris points out that, in London, the Crystal Palace survived the World Exhibition of 1851; the old Trocadéro has lived on for 57 years since the Exhibition of 1878; from the Exhibition of 1889 Paris inherited the Eiffel Tower, and the Colonial Palace from that of 1931. Since all the great exhibitions have left monumental witnesses of the efforts expended on them, what will the 1937 leave behind it? First, the new Trocadero, built this time on the plans that Baron Haussmann made for it in 1867. Then the two Museums of Modern Art, now being constructed on the Quai de Tokio, where the military warehouses were situated. It is already known that, after the exhibition closes, one of these museums will receive some of the contemporary works now at the Luxembourg Museum, and the other those now at the Petit Palais. Rebuilding of fourteen acres on the left bank will renovate the entire quarter, involving the destruction of the old furniture depot, of the coal-sheds of the Champ-de-Mars, and the reconstruction of the Avenue Rapp. The trees and gardens on the river banks and on the covered part of the State Railway line, between the Pont des Invalides and the Pont de Passy, are to remain. The Pont d'Iéna has been enlarged very considerably, and there will be a subterranean passage for automobiles from the Quai de Tokio to the right of the Pont d'Iéna. Thus the exhibition will endow Paris with more monuments, improvements generally, gardens and esplanades to an approximate value of 200 million francs.

London Transport Memorial to Roman Procurator.

LONDON TRANSPORT has decided to erect a memorial to a Roman Procurator. He will be commemorated by two stones built into the wall of the substation at Tower Hill. When the Metropolitan half of the Inner Circle railway was extended

to the Tower of London Station in 1882, 73 feet of Roman wall was destroyed. The only consolation for the loss is that the wall was photographed carefully. It is illustrated by the Commissioners for Historical Monuments in their third volume on (Roman) London. The link with the District Railway at Mansion House was completed in 1884, whereupon the Tower Station was closed and Mark Lane Station took its place. The site remained undisturbed until recently, when a sub-station was built on the cutting to the east of the old Tower Station. A rich store of Roman remains was unearthed by the excavators. The most noteworthy was a stone bearing beautiful, perfectly preserved lettering. Archæologists who were consulted reported that a similar stone had been found on the site in 1852. It was in the British Museum but it had not been identified. When the two relics were placed together it was seen that they were part of an altar tomb erected by Julia Pacata, daughter of Indus, in memory of her husband, Fabius Alpinus Classicianus, who was sent to Britain as Procurator in A.D. 61, after the outbreak of Boadicea's rebellion. The London Passenger Transport Board agreed to present the second stone to the British Museum, but they felt that there should be some record of the memorial near the discovery. Instructions have been given that a replica of the two stones shall be built into the wall of the sub-station.

NEVILE COURT, TRINITY COLLEGE, CAMBRIDGE.
From an Oil Painting by MR. HESKETH HUBBARD, R.O.I., R.B.A.

London Under Statutory Town Planning.

IN the next Chadwick Public Lecture, at the Royal Institute of British Architects, on Thursday, May 7, Professor S. D. Adshead, F.R.I.B.A., proposes to draw attention to those clauses in the Town-Planning Act of 1932 which were specially drafted to deal with the planning of a built-up area, and he will point out the administrative difficulties connected therewith. The lecturer will also explain the difficulties of separating the administration of the London Building Acts from the Town-Planning Act, and give an account of how town-planning, originally intended to deal with building development on broad lines, is becoming as meticulous in its application as are the Building Acts, and that this, through delay, through a crude appreciation of the problems involved, and through the magnitude of the task, is tending to produce errors even greater than those which town-planning is intended to correct. Admission to the lecture is free, and is timed for 8.15 p.m.

L.C.C. Annual Report.

THE annual report of the London County Council, 1934, Volume II., contains interesting information regarding the Council's public health, main drainage and housing services*. The modernisation and improvement of hospital accommodation was continued during 1934, including the provision of more isolation blocks at infectious hospitals. The most important section of the report is that dealing with housing. Reference is made to the negotiations between representatives of the Council and the Minister of Health which preceded the introduction of the measure which became the Housing Act of 1935, a measure principally concerned with the abatement of overcrowding and redevelopment on a large scale. The question of satellite towns also is mentioned. In January of 1934 the Council gave evidence before a Departmental Committee, set up by the Minister of Health, on Garden Cities and Satellite Towns, to the effect that owing to financial and industrial considerations the Council did not regard the setting up of satellite towns as a practicable or desirable contribution to London's housing problem.

Slum Clearance Progress.

STATISTICS are given showing that by the end of 1934 more than 67,000 houses and flats had been erected by the Council, of which over 57,000 were erected in the post-war period. More than 5,800 people were displaced and rehoused during the year. In July, 1934, the Council adopted a programme for the three years from June, 1934, to June, 1937, which contemplated the commencement of operations on all the larger unhealthy areas (132 in number) capable of redevelopment by the erection of block dwellings. A number of the smaller unhealthy areas, not suitable for housing development, will be cleared at the same time as the larger areas, and the remainder will be dealt with as and when additional housing accommodation is provided. Active co-operation is being given by the Metropolitan Borough Councils. During the year new types of flats with improved internal planning were approved and new elevations designed on modern lines were adopted.

The New Associate of the Royal Academy.

THE honours which can be conferred upon artists of exceptional ability are not many and they are often long deferred and even withheld altogether, but generally outstanding merit is sooner or later recognised, and those who by their works win distinction receive from their artistic or professional brethren such honours as can be bestowed. Mr. Vincent Harris has long been recognised in the architectural profession as one of our most able and successful architects, and his many important public works have placed him in the front rank of practising architects. His election, therefore, to the Associateship of the Royal Academy last week was to be expected and his selection will be endorsed by the profession generally as a well-deserved honour. In the many important commissions entrusted to him, Mr. Harris has shown imagination in working out the practical problems involved and has shown that an architect can be progressive without being an extremist, and it is a pleasure to record the honour which has been accorded him by his professional brethren.

* P. S. King & Son, Ltd., price 1s.

GENERAL NEWS

Professional Announcement.

Messrs. Northcroft, Neighbour and Nicholson, quantity surveyors, of 26, Hart-street, whose partner, Mr. A. S. Wall, died in August last, following an operation, have now taken into partnership Mr. H. A Ackland, who has been with them for many years. The name of the firm remains unaltered.

R.M.S. "Queen Mary."

In connection with the illustrations of the *Queen Mary* which appeared in our issue for April 17, Messrs. Mewès and Davis write to point out that Mr. Benjamin W. Morris, F.A.I.A. (of New York), is joint architect with Mr. Arthur J. Davis for the work.

Architects' Benevolent Society.

The annual general meeting of the Architects' Benevolent Society will be held at 66, Portland-place, W.1, on Tuesday, May 5, at 5 p.m. Sir Banister Fletcher will take the chair.

Chichester Civic Centre.

Chichester City Council has approved a recommendation to request the Royal Institute of British Architects to nominate six architects possessing special qualifications for designing civic centres to the Council. From these the Council will proceed to make an appointment.

Berks, Bucks and Oxon Architectural Medal.

The medal offered by the R.I.B.A. for the best building erected in 1935-1936 in the area of Berks, Bucks and Oxon A.A. for 1935 has been awarded to Mr. J. Hubert Worthington, F.R.I.B.A., for the design of the new wing of the Radcliffe Science Library, Oxford, at the angle of Parks-road and South Parks-road.

Housing in Scotland.

A memorandum, Housing (Scotland) Act, 1935, has been issued by the Department of Health for Scotland (H.M. Stationery Office), 9d. net. As the title indicates, the Memorandum is explanatory of the provisions of the Housing (Scotland) Act, 1935, as these deal with the finance of housing schemes and the letting of houses—both of them aspects of importance, particularly to local authorities.

Blackpool Law Courts and Police Station.

The Blackpool Watch Committee have again considered a proposal that the Blackpool police headquarters and the adjoining law courts should be rebuilt in order to meet modern requirements. It has been decided to appoint a representative of the British Institute of Architects to survey the site of the present police buildings, courts and fire station, and to report as to the suitability of the site and buildings in a rebuilding scheme, or, alternatively, for a new building.

New Western Exit from London.

Sir Henry Maybury, the first Chairman of the London and Home Counties Advisory Committee and now the London Passenger Transport Board representative on that committee, giving evidence on April 28 before the Select Committee of the House of Commons which is considering the London and Middlesex Improvements Bill, promoted to secure the powers to make a new road exit from London to the west, said that the scheme proposed in the Bill would give maximum traffic value at a minimum cost. He had considered the suggestion that that through route might be afforded by widening Chiswick High-road, but he thought that would be very unwise. He had considered the possibility of carrying the new road on a deck over the railway near Barons Court, and was satisfied that that would be costly and unwise. The scheme in the Bill was the best that could be devised.

A Standardisation Policy for the Building Industry.

The Building Industries National Council has issued from 5, Duke-street, Adelphi, W.C.2 (price 9d.), a Report on Standardisation Policy. The policy outlined in the Report carries one step further the effort to maintain full and up-to-date co-ordination and co-operation of all its many sections. Enlightened standardisation can play a very important part in the economic development of the industry, and the arrangement is such that it may well be followed by other major industries. Every aspect of the many interests involved is safeguarded; the manufacturer is particularly safeguarded, while the rights of the user have been fully preserved. The policy, if effectively administered, should prove of considerable advantage to both the industry and to the building owner, particularly in the all-important matter of structural maintenance.

Barnes Rectory Scheme.

The Barnes Town Council have rejected without discussion the proposal to develop the Barnes rectory grounds by building a group of residential collegiate buildings and a new rectory, and converting the existing rectory into a set of chambers. The principal reasons were :—

(*a*) The site is included in the Council's draft town planning scheme proposals in character zone 2, primarily intended for dwelling houses not exceeding an average density of 12 houses per acre, and the erection of flats thereon would injure the amenities of the locality in which the site is situate.

(*b*) The proposal would interfere with the view of the adjoining church from Church Road and Kitson Road, and (1) involve building over ground which has had an open aspect for many years; (2) involve an undesirable interference with the rectory, which has historic associations.

The Committee further recommended that failing some mutually satisfactory arrangement with the rector to meet the existing objections to the redevelopment scheme, the rectory and grounds be included in the draft town-planning scheme as reserved for an intended public open space. The proposal for development, which had the support of the Rector of Barnes, had been planned by Professor S. D. Adshead, F.R.I.B.A.

St. George's, Windsor.

At the annual meeting of the Friends of St. George's, Windsor, on April 25, Sir Charles Peers, F.R.I.B.A., consulting architect to the Dean and Canons, said the Dean's cloister dated from the time the Order of the Garter was founded. The Reigate stone of which it was built was decaying in many places, and they were losing much of its carved detail. It was impossible for them to temporise with the matter, for decay of this sort was certain to spread, and at a very perceptible rate. It was a sort of canker for which nothing but a surgical remedy was effective. The whole of the diseased stone must be cut out and reconstructed stone applied to places from which it was cut. So-called stone preservatives were of no use if decayed stone was left in place. This cutting away of decayed stone was a process which needed some training and experience, and although it was beyond the scope of any ordinary builder, for it was specialised work, it was not in any sense difficult. If they could in the next year muster, say, £350, a very good start could be made, and then they would be able to continue so far as they found it necessary in succeeding years. But the work must be started at once.

Work would also be necessary in the Canons' cloister. The arcading under the Minor Canons' houses at the west end was in a bad condition. The building had been shored up in order to prevent any serious damage, and this would for the time being ensure their safety. The causes of the trouble were the overloading of the buildings by the addition of an extra story in the middle of last century and weak foundations. Further attention would certainly have to be given to those buildings, but for the moment let them concentrate on the question of the repairs to the decayed stonework in the Dean's cloister.

COMPETITION NEWS

Proposed Reconstruction of Central Baths, Hackney.

Hackney Corporation have been recommended to reconstruct the Central Baths, Lower Clapton-road, and have considered a list of arcnitects submitted by the Royal Institute of British Architects. In order that the widest possible scope should be afforded for obtaining the best designs, they have come to the conclusion that an architect should be selected by an open competition, and that competitive designs by foreign architects should not be debarred. The R.I.B.A. are to be asked to appoint an assessor to draw up the conditions of an open competition for a design for a new central baths establishment, who will be asked to advise the Corporation on the question of the suitability of the existing site and as to alternative schemes.

New Technical College, Gloucester.

Gloucester Corporation has been recommended by the Finance and General Purposes Sub-Committee to hold a competition for a design for the new Technical College. It is suggested that premiums of £350, £250, and £150 shall be offered. The Education Officer has submitted the conditions and instructions drawn up by the assessor, Mr. Henry V. Ashley, F.R.I.B.A. The buildings would be two stories in height, and externally be faced with brick and stone dressings. The Corporation are stated to have in mind the expenditure of a total sum not exceeding £85,000 on the buildings, viz. : £60,000 for the Technical College and £25,000 for the Junior Technical School.

The proposals were agreed.

CURRENT COMPETITIONS.

	Particulars published in "Builder."	Sending in date
Sub-Fire Station, Erdington, for Birmingham T.C. (Restricted to Birmingham architects). Premiums : £100, and £50. Mr. T. Cecil Howitt, F.R.I.B.A., assessor. Applications closed March 16	Mar. 13	May 18
Designs for 5-apartment house plans, for Glasgow T.C. Premiums, £75, £50 and £25. Limited to architects in Scotland. Conditions from General Manager, Kelvin Hall, Glasgow	April 10.	May 22
Boys' School, Luton, for Beds. C.C. Prof. W. G. Newton, F.R.I.B.A., assessor. Premiums : £200, £100 and £50. Conditions (£1 1s. deposit) from Mr. J. B. Graham, Clerk, Shire Offices, Bedford	Mar. 6 Mar. 13	May 27

CORRESPONDENCE

Building Industry Statistics.

Sir,—I am at present doing research work at the London School of Economics on the economics of the building industry. My work is mainly of a statistical nature, and, owing to the scarcity of suitable official statistics, I would be very grateful if your readers could help me in my work by sending me any statistics they may possess concerning the building industry, the building trades, or the building materials industries which they consider useful. These statistics would be very useful if they related to production (in value and quantity), costs (and their distribution over labour, raw materials, overheads, etc.), prices, employment, wages, etc. The statistics would be most valuable if they went back over a long period of time, but any series of figures would be acceptable. The work will probably be published upon completion, but all statistics will be treated as confidential.

H. W. Robinson, B.Sc. (Econ).

35, St. George's-road,
Victoria, S.W.1.

[Some of our readers may be able to help our correspondent, who, in any case, should get in touch with the Building Industries National Council, 5, Duke-street, W.C.2.—Ed.]

THE ARCHITECTURAL ASSOCIATION

THE ART OF THE CARTOONIST.

On Tuesday evening last, at a meeting of the Architectural Association, at 36, Bedford-square, W.C., Mr. Will Dyson gave a lecture on "The Art of the Cartoonist." The Hon. Humphrey Pakington (President) was in the chair. Mr. Dyson said the social cartoonist here lacked that something which could be found in the work of Continental cartoonists, and which had been imported thence into America. In England the social cartoonist was so full of moral and social reservations that his work looked like the conversation of discreet curates when the Dean's back was turned. Whenever cartooning was mentioned in England there was always a political connotation, and the art of the cartoonist was almost entirely a piece of Parliamentary draughtsmanship and, with the possible exception of Tom Webster, who had moved into another field, all reputations that had been made in England during recent times had been made in the political arena. The cartoonist in this country was in a sense a by-product of Parliamentary life. Many had wondered what was really the justification for the existence of the politician, but if there were no politics there would be no cartoonists. The cartoonist lived by a process of attack, and if Governments were too good the business of attacking them was not easy. There might be noticed in the work of the cartoonist an endeavour to reform statesmen and Governments. But it did not need a great deal of imagination to realise what would happen to cartoonists if all Governments were good. It would be the end of the political cartoonist, who would be, like George Bernard Shaw, looking down on a world that had been transformed to his heart's desire, and looking down on it in dumb misery because he realised there was nothing left to denounce.

It was not sufficient that the statesman's laws should be ill-considered; cartoonists begged of him that his face be ill-constructed also. The thing that was essential to the cartoonist was that he should be in a position to attack. It was best for the cartoonist that the party he supported should be in opposition to the existing governance of things. If the party the cartoonist backed happened to be in power, the cartoonist was forced to make a type of drawing supporting somebody, but the real function of the cartoonist was opposed to that, and no one had ever seen a cartoon which was done in approval of somebody and was really worth looking at. When the cartoonist was in opposition he could take the offensive, and there was nothing he liked so much as being offensive. No cartoonist at any time had ever been quite so offensive as he would like to be. All sorts of things prevented this aboriginal virtue of the cartoonist exhibiting itself, chief among them being the timidity of editors and the congenital idiocy of proprietors. Another thing that prevented the cartoonist being as offensive as he would like to be was the fact that people wrote letters to editors: practically all such letters were to the effect that the best cartoons were in some other paper.

The cartoonist was several things. In one aspect he was a man like Daumier, who stood in our generation for the expression of something quite apart from cartooning, that had brought something of permanence into the work of the artist. In the exhibition now being held at the Architectural Association was some of the work of Edmund Sullivan, who had done cartooning during the War. But the cartoonist who lived in the appreciation of subsequent generations was not necessarily the best cartoonist. Such a man was probably a better artist than any of his contemporary cartoonists, but the difference between a good cartoon and a good drawing was that the former should be good for its day, while the latter should be good for all time. Some cartoonists, and chiefest among them Daumier, had won a place in the hierarchy of the great, but the cartoonist was not necessarily great because he was a great artist. He need not be a great artist.

This brought him to the æsthetic aspect of the cartoon, and in one sense it might be said that the æsthetic content of a cartoon was an excrescence, and probably only added as a sop to the vanity of the artist. Very likely the cartoon would be better without that æsthetic element. What he meant by that was that it would be very easy to put too much technical accomplishment into a cartoon. The elaboration of technique or realistic representation militated against the reception of the message, and the chief essential of a cartoon was that its message for the moment in which it was drawn should be apprehended by the greatest possible number of people looking at it. Consequently art in the Royal Academy or Slade School sense was not a necessary ingredient of a good cartoon, and we all admired cartoons that from the point of view of art were negligible.

The cartoonist was inevitably the child of his own generation. It was not necessary that he should be appreciated by generations that came afterwards, and if that so happened, he was probably inferior considered as a cartoonist. He must speak inevitably and always the habitual technical language of his generation. He was in a sense a brief abstract of his time. The cartoonist was in a sense related to the folk poets, and some of the sublimer aspects of poetry might be found in the work of cartoonists. What they were trying to do was to show the public an intensification of life, a "boiling down" of the trivial and a reduction from it of the universal.

Cartoonists "Always in the Right."

It might be noticed that cartoonists were always on the side of right, always telling the politicians how they should stop doing something and do something better. The cartoonist's drama must be simple. There was no place for the subtlety of a Henry James or a Proust. The subject of the cartoon must be a hero, or else a member of a party not supported by the newspaper the cartoonist was working for. There was an assumption, not shared by cartoonists, to the effect that they could wreck reputations, throw out Governments and change empires; but while a cartoon could make an existing opinion a little more effective, it could never be the medium of expression of a new economic or philosophic truth. One of the things that militated against cartooning in England was the feeling that the best cartoon was that which was the least offensive. This was a gross error. For probably three or four generations the cartoonist had been expected to be genteel and decorous, but earlier it had not been so, and in the days of Gillray and Rowlandson cartooning had nothing to learn from the Continent; for these were offensive and brutal enough to suit the taste of any aboriginal from Australia. But with the advent of "Punch" the cartoonist in a sense went into society, and a change took place which was of great interest to the social historian.

The lecturer illustrated this change by a slide showing side by side two cartoons each representing John Bull, one of the eighteenth century and the other of a more recent time. Something had happened, he said, between the presentation of those totally opposed ideas. He had a sneaking regard for the blackguard represented in the earlier cartoon. There John Bull was offensive for one reason and in the latter one offensive for quite another reason; and anyone with historical sense and social conscience might see the industrial era operating in the interval between the publishing of the two cartoons. In this era middle-class complacency had risen to its height.

A vote of thanks to the lecturer was moved by Mr. Arthur Wimperis, seconded by Mr. L. H. Bucknell, and heartily accorded.

"THE BUILDER" DEBATE

LXXXIV.—ARCHITECTS AND LOCAL GOVERNMENT.

Sir,—"Negative's" rejoinder seems to be based generally upon a mistrust of the local government system, and it appears to me that whether mistrust is well founded or not, the point does not bear upon this particular debate.

The possibility of an architect being torn between two masters in serving a client and the ratepayers at large surely applies equally to all other classes of councillor. Each of them, for instance, is a ratepayer, and therefore may be embarrassed between his own personal interests and those of the community. Every trade and profession represented on a council creates a possible opportunity for a clash of interests. If we are to take such events as the reason for disqualifying an individual from representing his fellows upon a local authority, there would cease to be any available councillors, and we should have to scrap our system entirely and agree to be represented by people out of the district. Whatever fault may be found with local government, the general opinion seems to be that the institution is well founded and works well in a truly British way. I see no reason why, within such a framework, an architect should find his position more difficult than that of his fellow members, nor, for that matter, difficult in any way at all.

In the third paragraph of his rejoinder, "Negative" raises a point upon which I agree there may be some differences of opinion I can, however, see nothing improper in the idea of various members of a council having as their personal care not only the interests of their individual wards, but of specific trades and professions, provided that this is frankly acknowledged and practised in the open. The only occasions upon which such a principle could be abused would be in connection with dishonourable claims, which we need not consider as arising in connection with fair trade.

We have both referred to the "Elevations" clause of the Town and Country Planning Act. As at present administered, the whole matter is a mystery to the average town planning committee, and surely it must be granted that the introduction of a leaven of skilled taste within these committees must tend to make the operation of this clause more effective, whether there is an Advisory Panel in force or not. In the former alternative we should see many fewer cases of a council overriding the findings of its own Panel than is at present the case, and in the latter we should have a definite influence introduced to the assistance of effective work. There surely is no more reason for saying that an architect member of a town planning committee would be a specially privileged practitioner than that a builder member should be a specially privileged tradesman.

On the question of exposing any scandals which may exist within the machinery of officialdom, I can only answer "Negative's" point by saying that it has proved almost impossible to expose such scandals from outside the council chamber, and that the task of those within it who know what to look for, and where to seek it, must be a very much more simple task.

Finally, upon the point of architect-councillors being excluded from carrying out public works within their own district, conditions seem to show that in the relatively small proportion of the work carried out by private architects for local authorities it is rarely that the local architect is employed. If this is right, and I believe it to be so, the field of practice for the architect-councillor is barely affected by the suggestion I have made, nor am I aware of any of the architects who at present do serve on local authorities suffering in their practice as a result.

Having answered specifically the points which "Negative" has raised against my arguments, I can only present my original case once more in the confidence that it will find general agreement. Positive.

R.I.B.A.

NOTES FROM THE MINUTES.

Following are notes from the minutes of the council meeting of April 6.

The R.I.B.A. Examination Board in India.—The Board of Architectural Education reported that they had appointed Mr. Percy Wilson, A.R.I.B.A., to serve as one of the R.I.B.A. representatives on the R.I.B.A. Examination Board in India. The other R.I.B.A. representatives are Mr. D. W. Ditchburn, F.R.I.B.A., and Professor Claude Batley, A.R.I.B.A.

Board of Architectural Education, 1936-1937.—The officers of this Board for the year ending March 31 next were appointed as follows:—Mr. T. A. Darcy Braddell, chairman; Mr. Hubert Lidbetter (chairman of the Examinations Committee), Professor L. B. Budden (chairman of the Schools Committee), Mr. Stephen Welsh (chairman of the Prizes and Scholarships Committee), vice-chairmen; and Mr. A. B. Knapp-Fisher, hon. secretary.

Association for the Prevention of Tuberculosis.—Mr. E. Stanley Hall, V.-P.R.I.B.A., was appointed as the R.I.B.A. delegate to the twenty-second annual conference of the National Association for the Prevention of Tuberculosis, to be held in London from July 16-18.

League of Nations Health Organisation.—The Science Standing Committee reported that, as a matter of urgency, they had appointed Mr. P. J. Waldram, L.R.I.B.A., to represent the Royal Institute on a sub-committee on "Health and Comfort Conditions in Housing," appointed as a result of the recent joint meeting of interested bodies called by the Dean of the London School of Hygiene and Tropical Medicine.

Standardisation of Baths and Fittings.—The Science Standing Committee reported that, as a matter of urgency, they had appointed Mr. R. J. Angel, F.R.I.B.A., to represent the Royal Institute on a Technical Committee, set up by the British Standards Institution to consider the standardisation of baths and their fittings.

Canvassing at Council Elections.—It was agreed to publish a note in the Journal deprecating the canvassing of votes at R.I.B.A. Council elections.

Address on Air Raid Precautions.—It was agreed to invite Col. Garforth, of the Home Office, to give a short talk on air raid precautions at the general meeting on June 22.

Resignations.—The following resignations were accepted with regret:—Thomas Baird (F.), Ernest Arthur O. Auldjo Jamieson (F.), John William Mawson (F.), Herbert George Jefferies (A.), Harold Morgan Lewis (A.), Edward Percy Proctor Samuels (A.), and Francis Houlton Wrench (L.).

Election of Students.—The following Probationers were elected as Students of the R.I.B.A.:—J. A. Ashworth (Liverpool School), L. Ball (Leicester College of Arts and Crafts), H. Bartlett (Auckland University College), H. C. Bishop (Birmingham School), R. W. Cave (University of London), J. G. Cheyne (Armstrong College), C. D. Davison (McGill University, Montreal), J. B. Ellis (Liverpool School), R. W. Evans (The Polytechnic, Regent-street), M. A. Harland (The Polytechnic, Regent-street), R. F. Harwood (Liverpool School), W. A. Henderson (Liverpool School), H. G. F. Higgins (Liverpool School), W. R. Hillson (Liverpool School), A. W. Jones (University of Manchester), I. N. Jones (Welsh School), A. Luntz (Liverpool School), H. D. S. McGowan (Auckland University College), C. McKay (Glasgow School), T. Mellor (Liverpool School), L. D. F. O'Brien (University of London), R. Penn (The Polytechnic, Regent-street), J. C. Richardson (Robert Gordon's Colleges, Aberdeen), A. D. Scott (A.A.), Miss G. P. Seaward (Liverpool School), Ng Keng Siang (University of London), I. B. Simpson (A.A.), Miss P. M. Spencer (A.A.), N. J. Warburton (Liverpool School), R. V. Ward (Liverpool School), J. B. Willey (Armstrong College).

A "FORK" DWELLING AT MALTON, YORKSHIRE

By ANNIE E. WELSFORD, B.A. (Cantab.).

In demolishing an old house, formerly Drake's butcher's shop, in Finkle-street, Malton, Yorkshire, on March 25 and 26, it was discovered that later walls masked the forked timber framework of a house essentially mediæval in type.

Remains of these early dwellings are found occasionally in Yorkshire and, I believe, in other parts of the country, hidden by later walls. The accompanying illustration shows the method of construction. Two huge oak beams with their ends buried in the ground are dowelled together at the top into a narrow tie-beam and thus form a great fork, or cruck, as it is called in some parts of the country. Two or three such forks bearing the ridge beam form the essential framework of this primitive type of house. Originally a thatched roof extended to the ground. Cottages of this description are shown in mediæval manuscripts and must have continued in use until Tudor times at least. It is interesting to find that there is an account of how the Abbot of Whitby in 1498 had "as many oakes taken in Godlande (Goathland, near Whitby) as made aftre the maner of the Coutrey iii pair of forkes, with the other bemes and wall plaites as were mete for the repairalling of an hows of his in Godlande."

The great drawback of this type of house was its lack of head-room. The maximum width of the fork at its base is about 18 ft., and although the beams are bowed outwards in the lower half, yet the slope of the roof would have reduced the width considerably at the height of even 6 ft. The addition of upright walls outside the timber framework to support a roof at a less acute angle was the solution eventually found for this difficulty. By this means most of the existing fork-dwellings have been converted to outward appearance into ordinary four-walled houses. Atkinson, in his "Forty Years in a Moorland Parish," describes several fork-dwellings which existed in Cleveland in the latter half of the nineteenth century. In most cases the side walls had been added by the middle of the seventeenth century, and in some, but not all, an upper floor had been added at the same time.

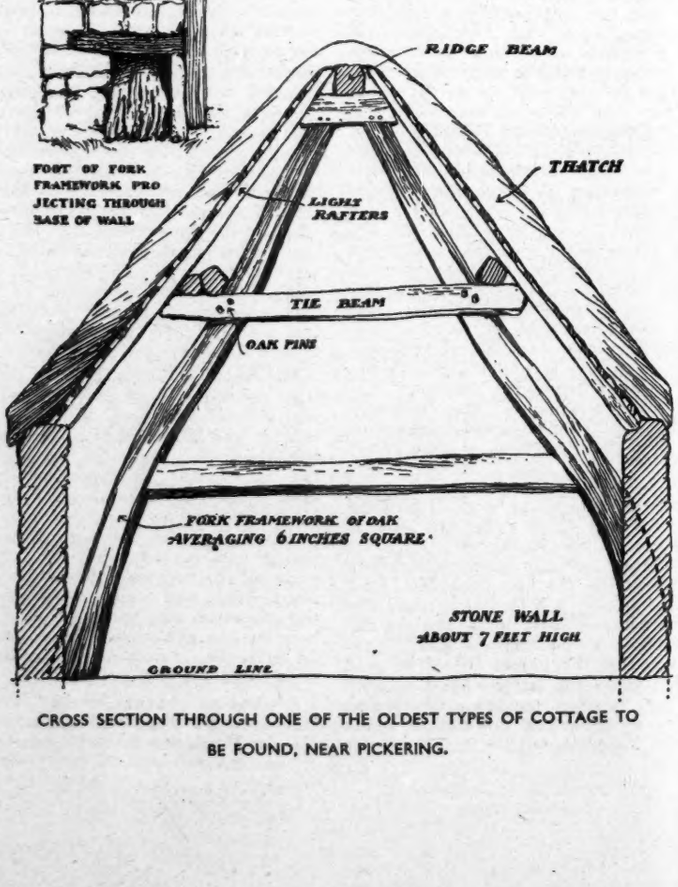
The Malton house contained another interesting feature—an old chimney composed entirely of laths and plaster with light timber supports. A similar chimney is illustrated by Nathaniel Lloyd in his "History of the English House" (p. 347, fig. 558), but his example has a heavier framework. The plaster was made of loam mixed with about an equal quantity of reeds. The fork-dwellings described by Atkinson showed no trace of having originally had chimneys, but in some cases where one had been added later, the addition seemed to have taken place before the end of the seventeenth century. The Malton chimney rose from what had been an open fireplace, and the plaster was keyed into stones resting on a great oak chimney-beam. The flue, which was rectangular in section, was about 8 to 10 ft. wide at the bottom, and narrowed until it finished in a 2-ft. flag with a round hole in the centre, which had been crowned with a modern chimney pot. The chimney had no opening on the first floor. The open fireplace had later been blocked and a modern grate inserted, and the chimney had remained in use until the destruction of the house in 1936.

It was unfortunately impossible to move any considerable part of the chimney intact; but the timber forks have been preserved by Dr. John L. Kirk, who hopes to re-erect them in the new museum now in course of construction at York Castle.

[We are indebted for the accompanying illustration, which is from "The Evolution of an English Town," to the author, Mr. Gordon Home, and to the publishers, Messrs. Dent & Co.]

Incorporated Association of Architects and Surveyors.

Sir Charles Allom has been elected a Fellow of the Incorporated Association of Architects and Surveyors.



CROSS SECTION THROUGH ONE OF THE OLDEST TYPES OF COTTAGE TO BE FOUND, NEAR PICKERING.

STAINED GLASS—AN ART OR A SURVIVAL?

By LEONARD WALKER, R.I.

STAINED GLASS—an art or a survival? Alive or fading away? If a child is sick, or supposed to be, and the diagnosis and cure are difficult, investigation embraces the parent and the home. We want to know if Mother Architecture is above reproof, or whether the fault lies with stained glass.

The physician, in ascertaining a complaint, has in mind the circumstances and condition of the ideal individual. So it is useless to say what is the matter with anything and to agree on that point unless we all have more or less a similar mental picture of the ideal thing.

We are on common ground in saying that architecture embodies something more than building and construction. The work of the wood and stone carver, the sculptor, the metal, lead and glass worker, and other crafts connected with architecture help to comprise that something more. The general acceptance that a clothed person is finer than a skeleton alone justifies the above association.

Let me say that I am trying to lead our thoughts rather deeper than the surface, which takes us to that most boring and interminable theme—comparisons of old and new.

To digress for a moment, we note that our own frames have constructional features, and it is an easy step to become aware that we exhibit all kinds of activities, at times stern and severe, and at others lighter ones, which together, controlled by balance and design, make up and clothe our lives; so it is not too far-fetched to say that we all erect an edifice of balance and proportion during the course of our lives, and all are members in a sense of a great architectural school. The creative instinct in mankind has brought into the world all kinds of things which echo emotions and feelings inherent in us. We can only be moved by contemplation if what we see has some sort of counterpart in ourselves.

To return to our topic, I suggest we have a right to expect from architecture, with means of expression so wide and varied, an echo of the wide range of human experience. We find in the best architecture our sober, stern moments reflected in the pillars, walls, etc., and our lighter moments at the other end of the scale, in the sculpture and carving, the sparkling, joyous bits of glass, the carefree twists and turns of the leads. Between the two ends of the scale the intermediate notes have to be filled in. Are we demanding and expecting too much from architecture? Shakespeare has given us a cathedral of sight and sound. We have the monumental epic in a Beethoven symphony: the main theme—the nave; the secondary motives—the transepts; the mystery supplied by chords and passages veiling the argument, delicious passages of lightsome, colourful matter; the glittering glass all in due proportion and balance

Architecture has at least the responsibilities of the sister arts, indeed more, in a sense, as she is in the position to embrace them all. I grant that in certain conditions she must be more or less "on her own" without all her children; but is it necessary for her to be bereft of many of the graces associated with her calling? I read Professor Goodhart-Rendel's protest against her antics in Piccadilly, and other voices have been raised here and there. Does not the situation demand some concerted action?

But I hear, "Oh, fear nothing. Mother is finding her feet." I answer, "Why lose these necessary appendages?" But if they are lost, one could wish that the route of recovery might lead through an experimental area, a place apart, where the throes of the renaissance would be veiled from our gaze.

Is it not possible that architecture is forgetting her high calling, emphasising factors of bulk and starving other things we hold precious? We note with concern the effect of this disproportion of values in nations; the idolising of physical strength reflected in their architecture, and the passer-by influenced in a sinister way to his detriment. This is no village council question.

The Uses of Stained Glass.

We have considered for a space the position of the parent, now for the offspring. Glass and lead can be mere materials to let in light and keep out the weather. But glass, with the addition of colour to form design, rhythm, etc., can conjure up a number of emotions with a warmth to which few can fail to respond. The notes of its beauty extend beyond the ordinary compass; it can display every phase of the spectrum with a quality of precious stones; it can recall the exhilaration of spirit that we knew when we gazed on the herbaceous border of sunkissed blooms, with their flashing diamonds of dew.

This is the material nearest to the jewel world, which poets have chosen of all others to express their ecstasies of their beloved Helens and Francescas—their ruby lips, eyes of sapphire—a material that furnished the symbols of the new Heaven in the Revelations. Coloured glass, if allowed to display itself properly, has the monopoly of a chord in us that nothing else can start vibrating. But unfortunately the glass too frequently has been smothered.

What do we see? A series of flabby, nerveless creatures to rank with the horrors of Madame Tussaud's? Battalions of such constitute the mental picture of many when stained glass is mentioned, and they are not to blame. Or perhaps it may be a conglomeration of geometrical shapes, a kaleidoscope of crude colours insulting even to a nursery.

It is not the fault of the material, but of the many who have been showering their thoughts in terms of literal representation on the glass in an inordinate manner, masking the material until it has become a peg, or a mere receptacle. The result—a picture: the greater bulk illustration, and little, if any, decoration.

Many, and among them numbers who should know better, have tolerated, even welcomed, this sort of thing; so we have stained glass behaving badly, and not checked but spoilt by its friends. Again, we plead guilty to distributing a piece of work to too many hands—a policy a portrait painter would find disastrous.

The action of clients giving orders for windows from water-colour sketches alone with complete indifference to the quality of the glass to be employed (for there can be as much difference between glasses as there is between common deal and a selected walnut), is a policy the smallest village maid would despise, for she would see the nature of the stuff of a proposed frock. Someone once christened a type of glass not fit for a fowl-house "cathedral glass" and hoodwinked millions.

Passing to the elements of design, directly one starts to arrange patterns of anything of various sizes and shapes in an irregular manner some association with known named forms creeps in, and naturally in an ecclesiastical building the religious topic holds sway. But the old men adapted their theme to the design and dictates of their material. The piece of white glass in the arrangement became Saint Somebody or other in a white robe. The glass in its position as a decorative factor called the tune, and the story or incident was there all right, but really in a subordinate position. Thus we had a very high level of decorative fitness. Of course, the teacher would "cotton on" to the story part, and probably did not care a rap nor understand anything about harmony of colour or design and weave a sermon from a window. The craftsman, meanwhile, chuckling in his beard, would say nothing; he was no fool.

As time went on, so-called improved methods of making glass in a more regular way were introduced, with a consequent loss of the beauty born of accidentals and irregularities. The perfectly smooth, uninteresting surface arrived, and, terrible to relate, the craftsmen, public and clients fell into the trap.

The surface lent itself to elaborate minute imitation of anything in the world around. "Ha! Ha!" we villains cried; "paint a lot of daisies on this poor glass and sidetrack their interest to horticulture. Above this, old fellow, let's paint a canopy, pinnacles, crockets, finials, and the rest. They will revel in spotting the spots. Not suitable, not fit for the purpose, did you say? What of that?"

And so the material gradually was divorced from its primary purpose to decorate, and became just a receptacle to carry themes suitable, perhaps, for canvas or panel, but not glass. Windows prattling and chattering *ad nauseam* instead of singing of light and assisting architecture to complete and unify her appeal in the logical and honest manner. There must be a transformation, a glass world-light streaming through figures, if figures there be. Subject-matter thus is *in* and comes *through* the glass, as it were; we see a parallel in the case of a subject painted *on* a piece of wood, and the theme *arising*, as in marquetry, through the use of precious woods cunningly devised.

The Realms and Limits of Glass.

Sitting at the feet of the finest glass, learning by patience its language and then interpreting the theme according to its dictates, you are led by your material. There can be no chaining down or coercion of the thing you love; you alter your design to suit the glittering lady. She will express for you whatever subject-matter there may be, translated into a vitreous world, a fairy palace of jewelled splendour. Your loyalty protects you from over-statement. You guide her gently, travelling by the paths of design, rhythm and balance within the boundaries the architect has provided.

The display in this magic world inclines to the nature of improvisation; the finished statement tires, leaving nothing to the fancy or imagination, and so you must always let her have one foot in the world of music, and you will have a glory of scintillating notes—an anthem of enchantment.

Do I claim for architecture too lofty a responsibility? If we are not content with size and proportion only in a human being, but expect other qualities, can we not ask the same of architecture? To dislike in truth some recent erections, *per se*, is impossible; they exhibit strength and volume no one despises. But it is the inclusion and consequent emphasis of certain factors only, to the exclusion of others, that cause dismay and indignation. The crafts used aright are the legitimate children of architecture, and their claims are incontestable as contributing to a complete æsthetic whole. Coloured glass comes in as a right, a necessary factor, not a concession. Without it there will always be a note not functioning.

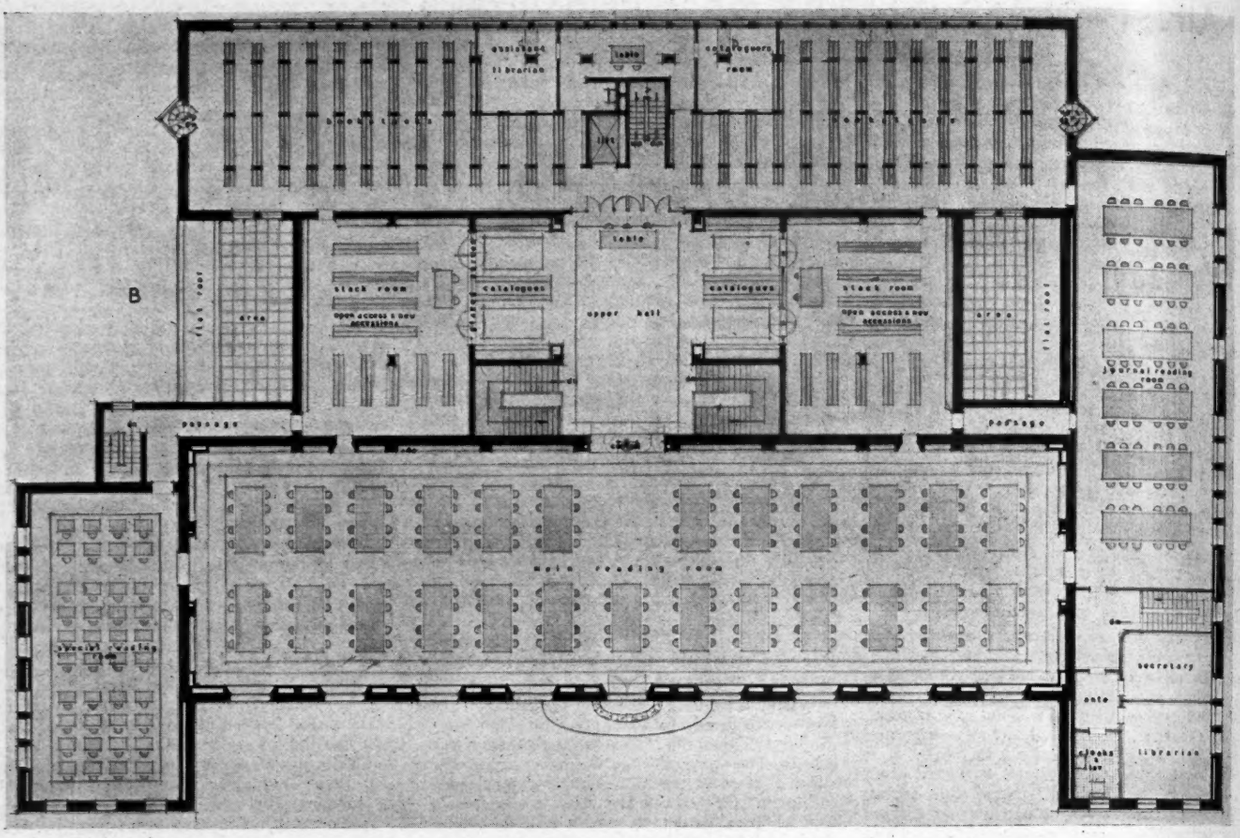
The stained-glass world must put its house in order; the greater part of the blame may be ours. We want high ideals even if it means the push-bike instead of the Daimler for our recreation.

Just decorate our buildings to be seen as a whole, and do not agonise architects by seeing folk poring over catalogues in front of windows. "Where are the keys of St. Peter? Can you see the keys, Maggie? Has he lost them, do you think?"

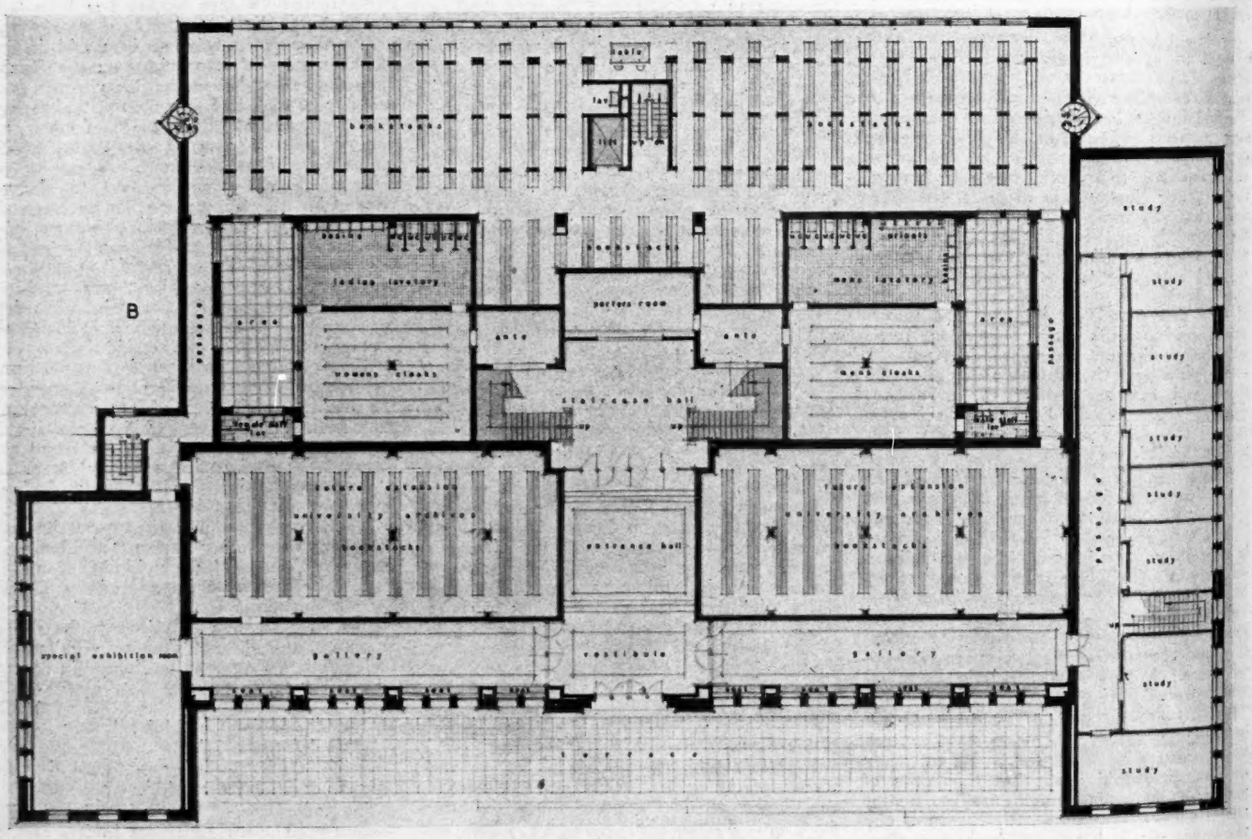
"Oh, I hope not."

The S.P.A.B. Secretaryship.

The committee of the Society for the Protection of Ancient Buildings invites applications from architects for the post of secretary. The initial salary is £400, and preference will be given to those between 30 and 40 years of age. A limited private practice will be allowed. Forms of application may be obtained from the Assistant Secretary, 20, Buckingham-street, London, W.C.2.



PLAN OF FIRST FLOOR AND STACK FLOOR NO. 5.



PLAN OF GROUND FLOOR AND STACK FLOOR NO. 4.

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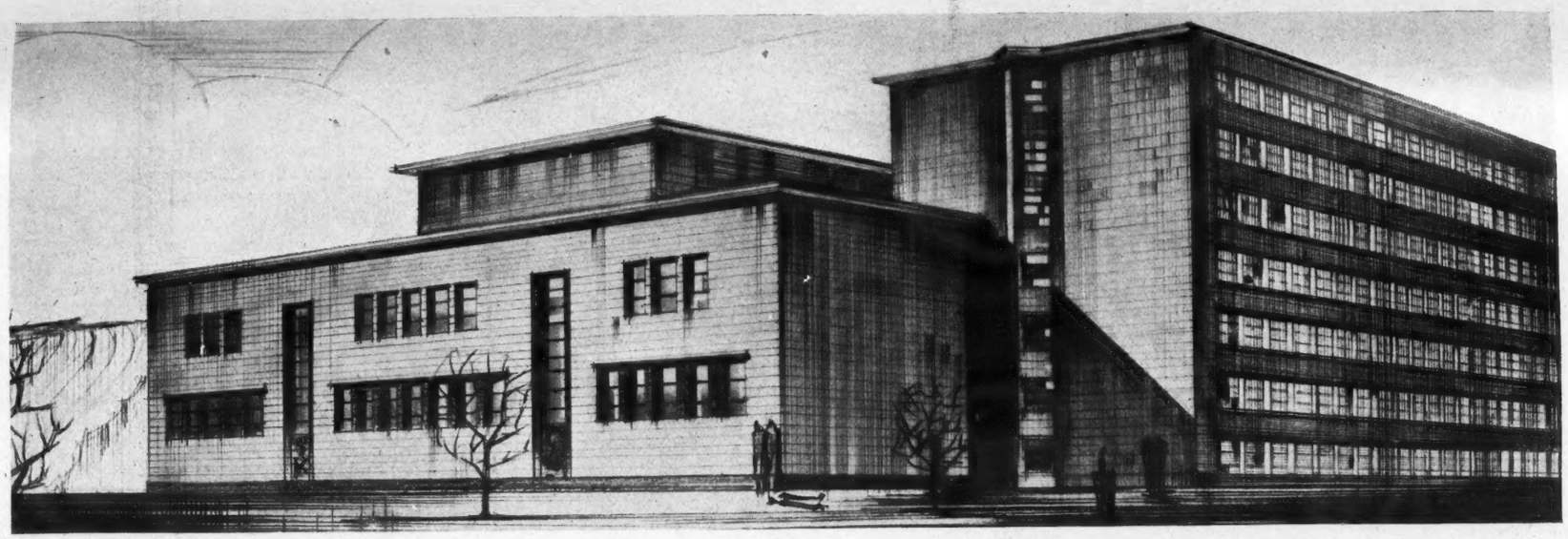
MESSRS. WILLINK AND DOD, F.R.I.B.A., Architects.

(See page 878.)



SIDE AND BACK ELEVATIONS, SHOWING STACK

FRONT AND SIDE ELEVATIONS

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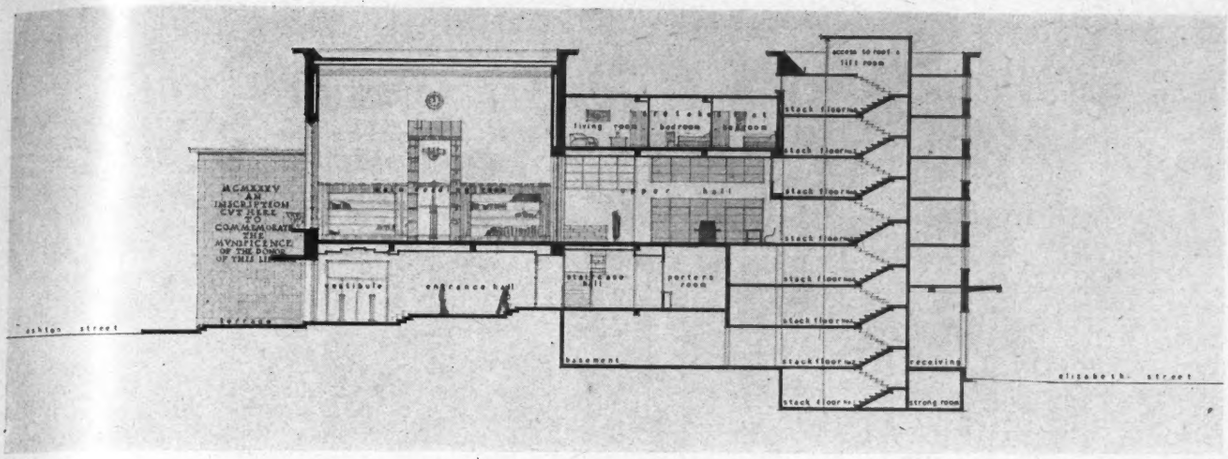
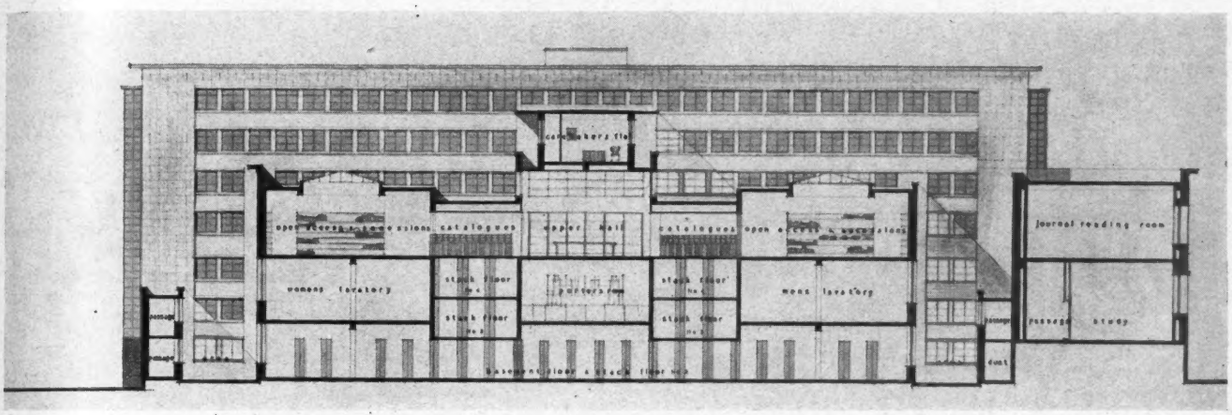
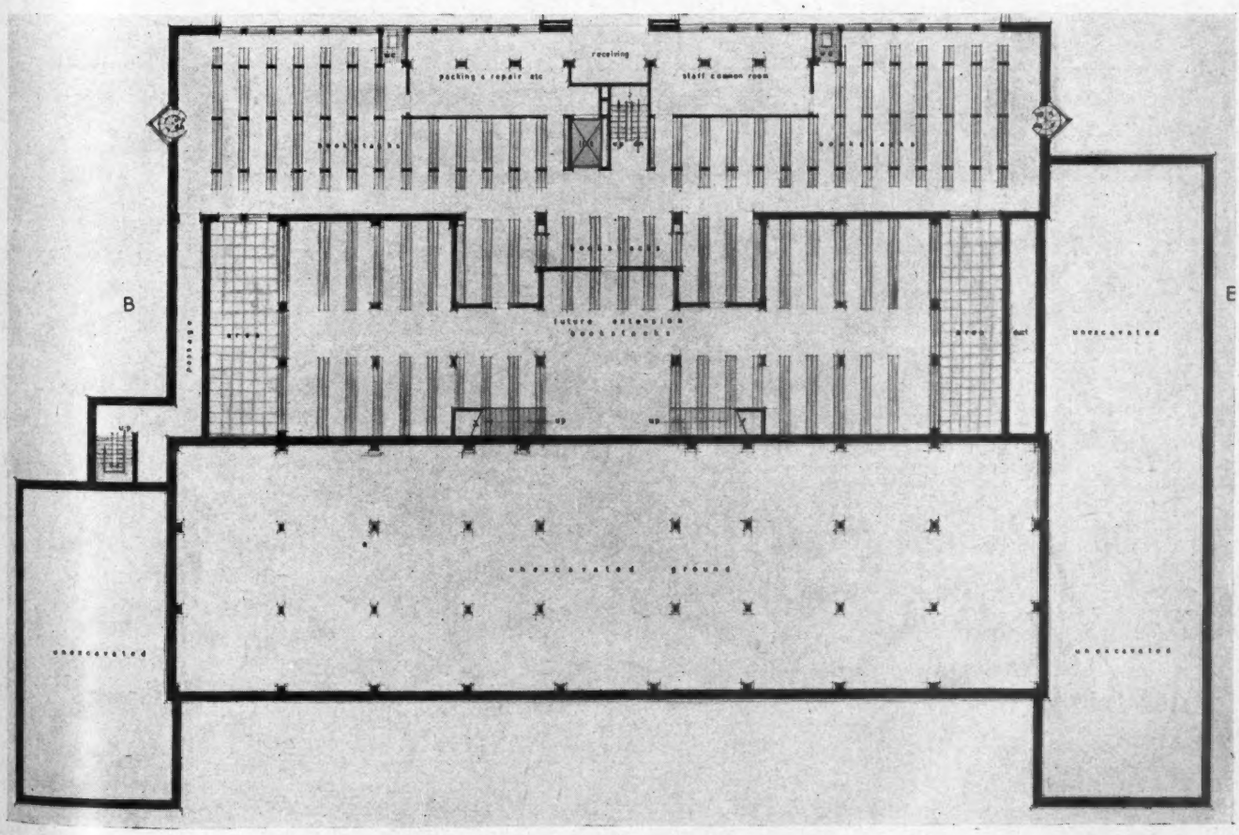
(See page 878.)



CROSS SECTION A—A



LONG SECTION B—B



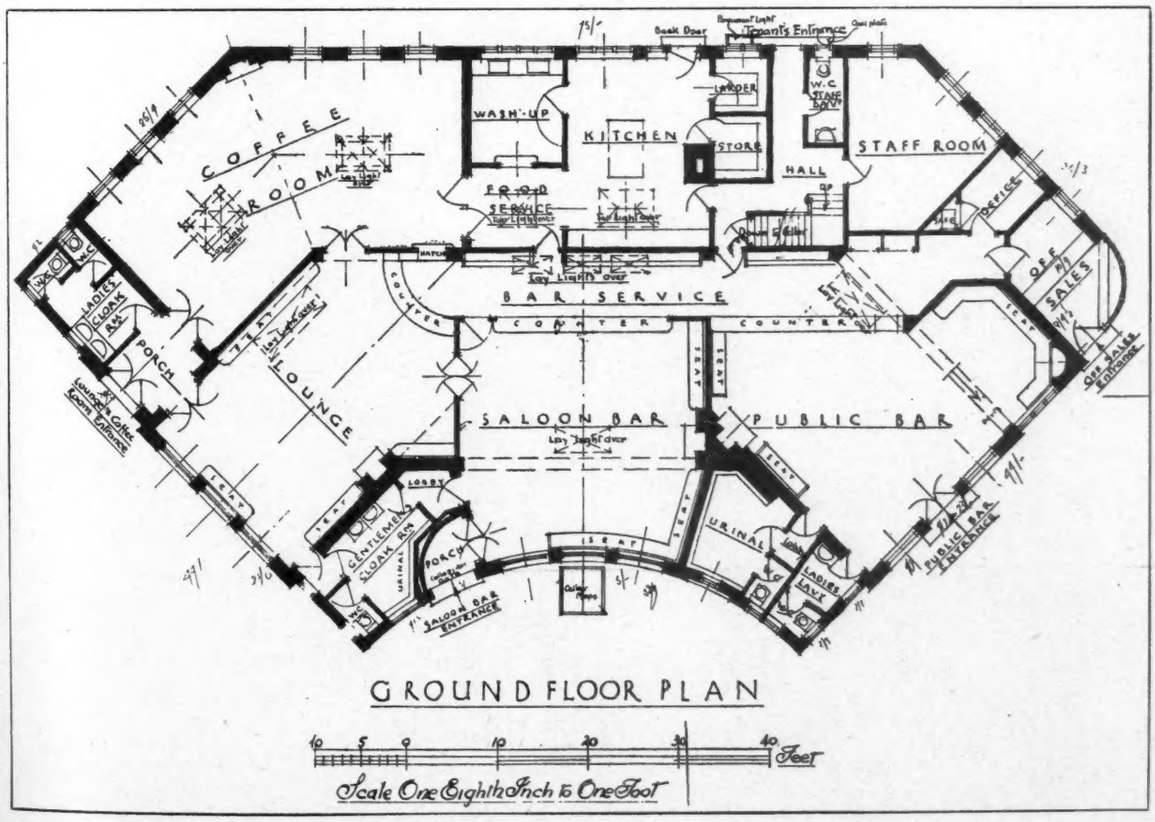
PLAN OF BASEMENT FLOOR AND STACK FLOOR No. 2.

THE NEW UNIVERSITY LIBRARY, LIVERPOOL.

MESSRS. WILLINK AND DOD, F.R.I.B.A., Architects.

(See page 878.)

DETAIL OF ENTRANCE FRONT.



THE "WOODEN BRIDGE" HOTEL, GUILDFORD.

MR. G. MAXWELL AYLWIN, F.R.I.B.A., Architect.

(See page 878.)

THE "WOODEN BRIDGE" HOTEL, GUILDFORD : Main Front and Terrace.

MR. G. MAXWELL AYLWIN, F.R.I.B.A., Architect.

(See page 878.)

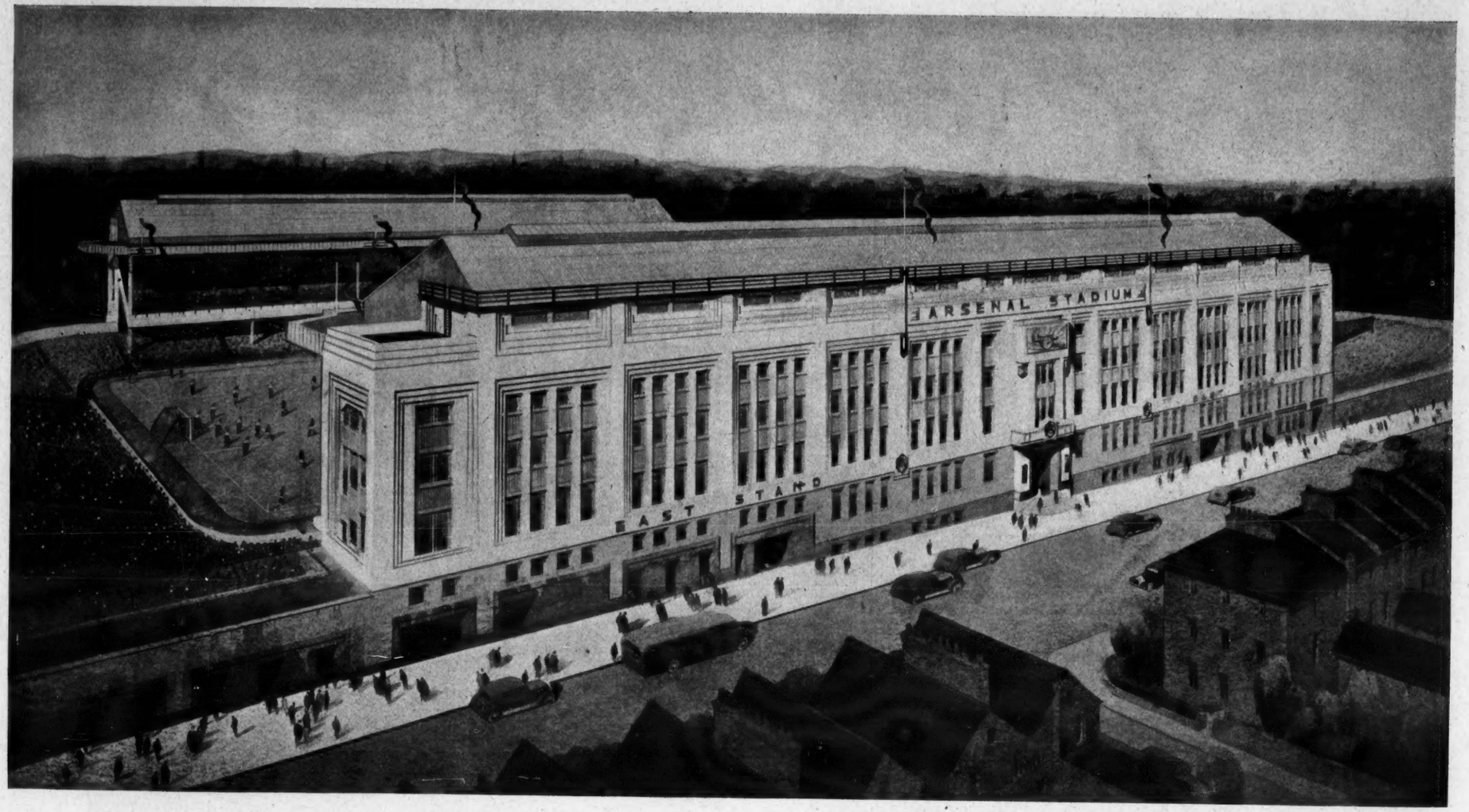
PUBLIC BAR.

LOUNGE.

THE "WOODEN BRIDGE" HOTEL, GUILDFORD.

MR. G. MAXWELL AYLWIN, F.R.I.B.A., Architect.

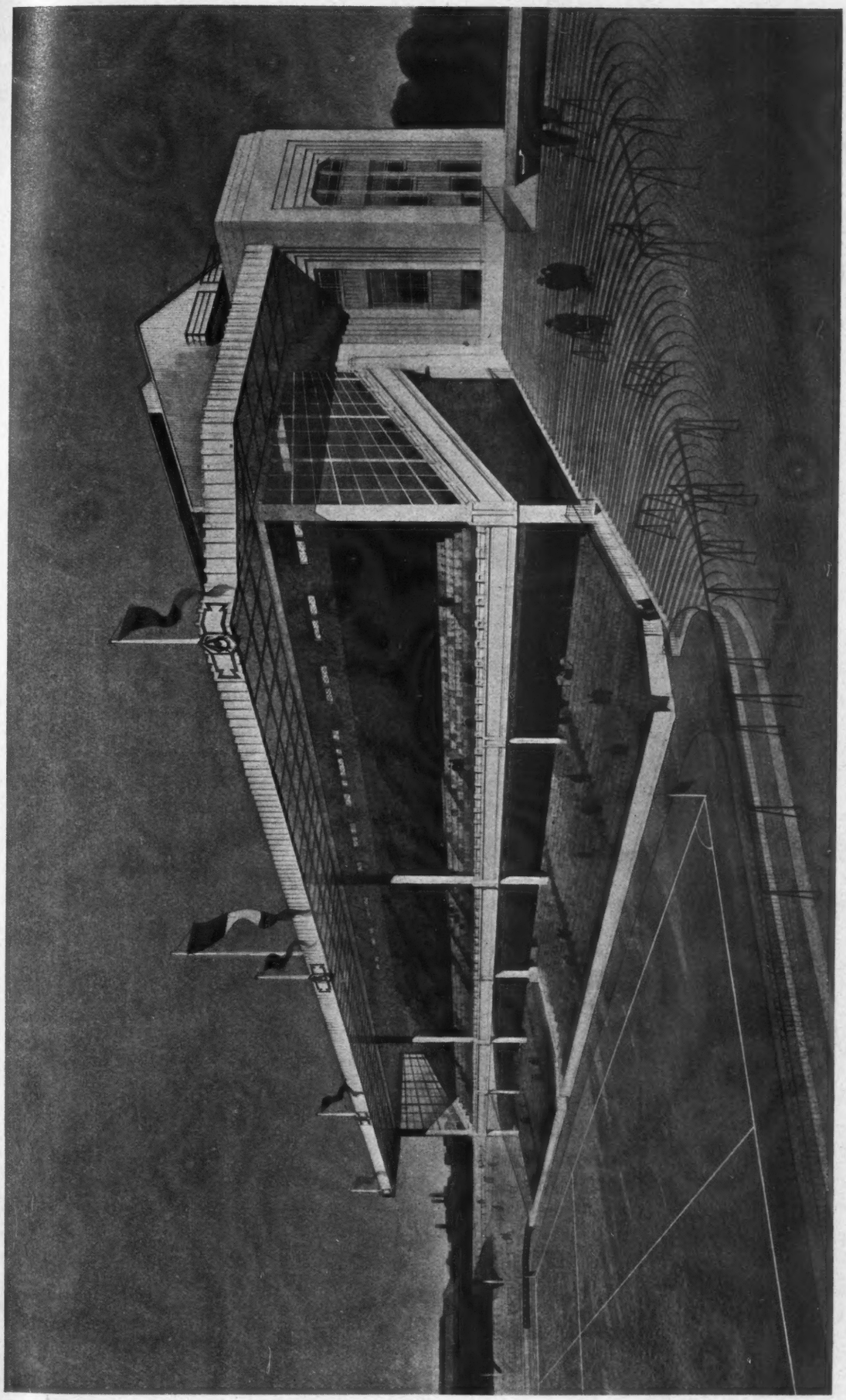
(See page 878.)



THE ARSENAL STADIUM, HIGHBURY : New East Stand. Elevation to Roadway.

MR. W. B. BINNIE F.R.I.B.A., Architect.

(See page 878.)



THE ARSENAL STADIUM, HIGHBURY: New East Stand. View from Terraces.

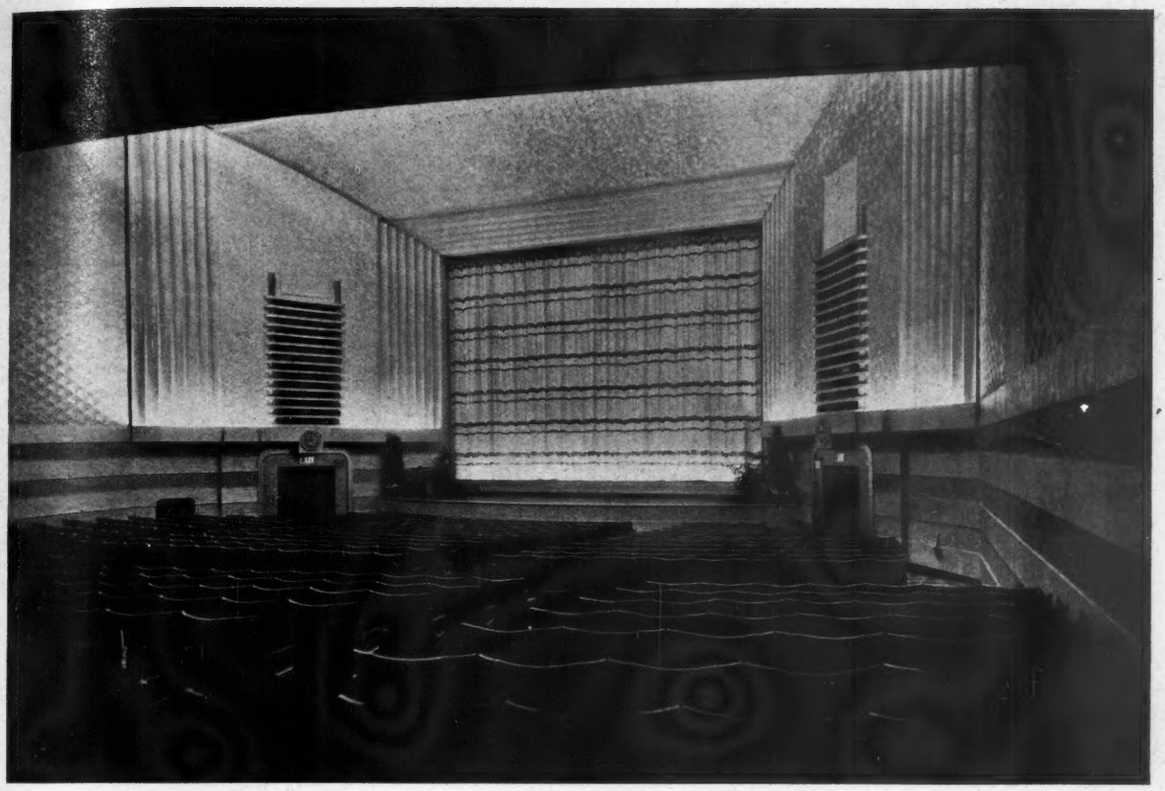
MR. W. B. BINNIE, F.R.I.B.A., Architect.

(See page 878.)

THE "ODEON" CINEMA, WIMBLEDON.

MESSRS. YATES, COOK AND DARBYSHIRE, Architects.

(See page 878.)



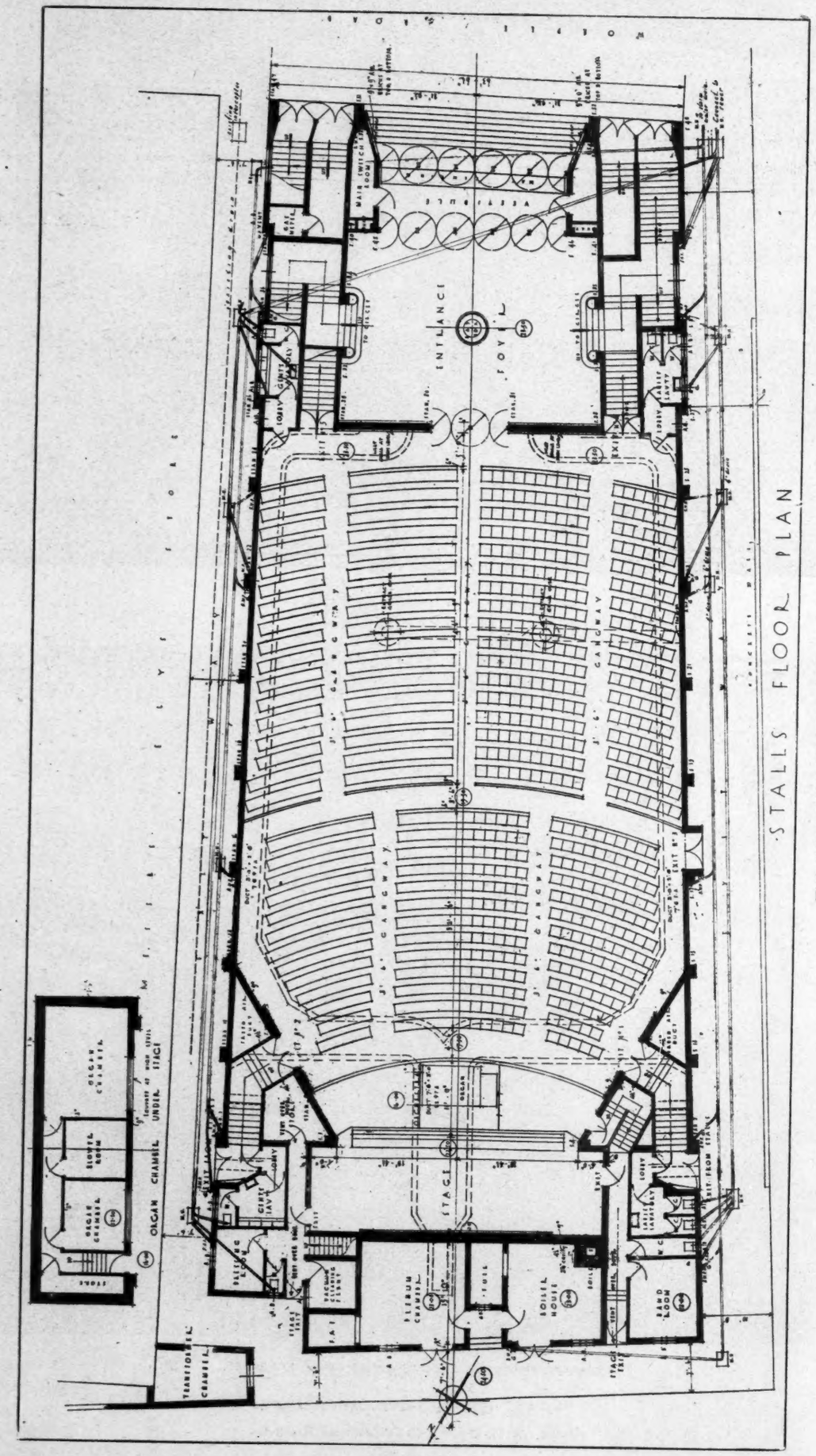
AUDITORIUM, FROM BACK OF STALLS.

ENTRANCE FOYER, LOOKING TOWARDS CIRCLE STAIRCASE.

THE "ODEON" CINEMA, WIMBLEDON.

MESSRS. YATES, COOK AND DARBYSHIRE, Architects.

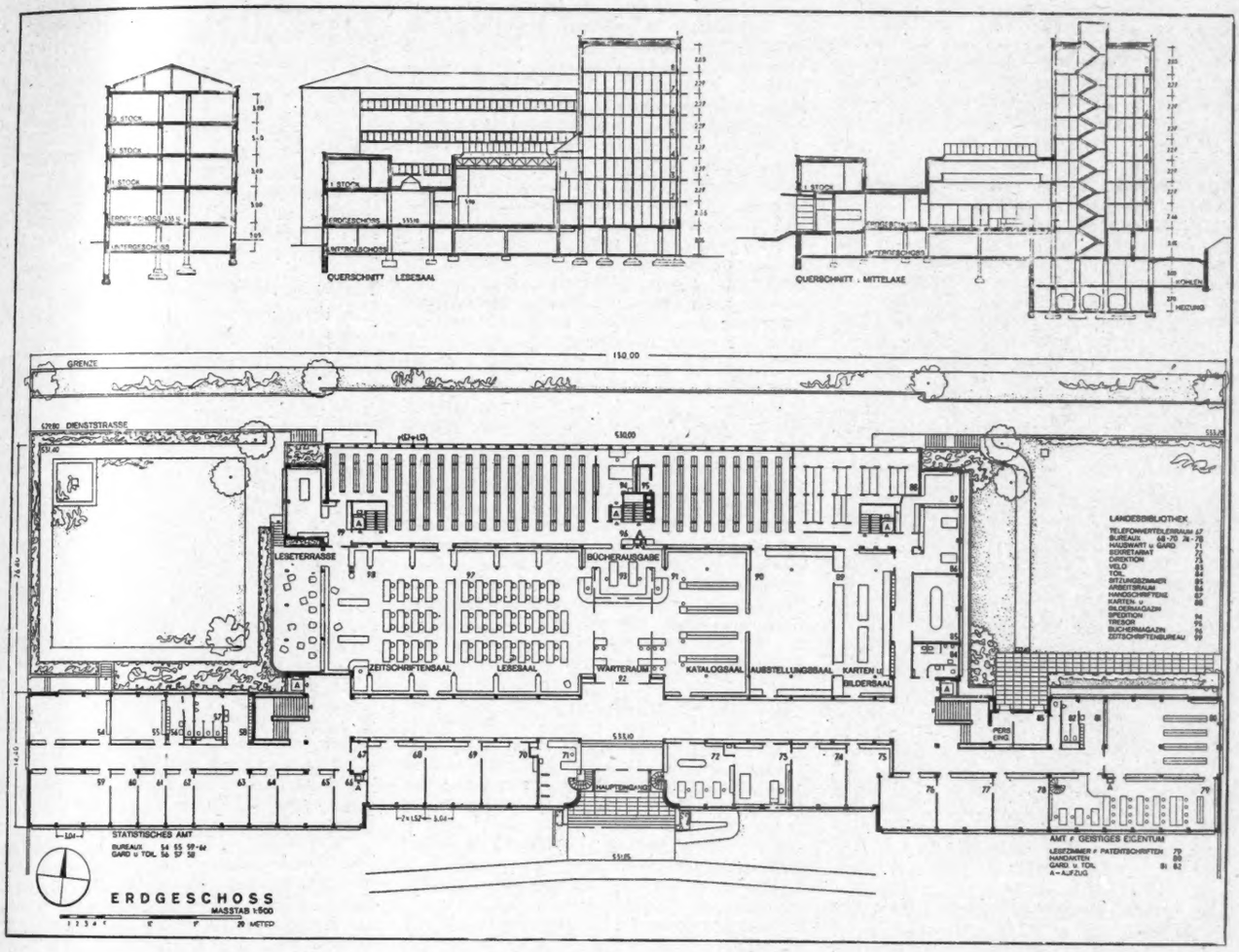
(See page 878.)



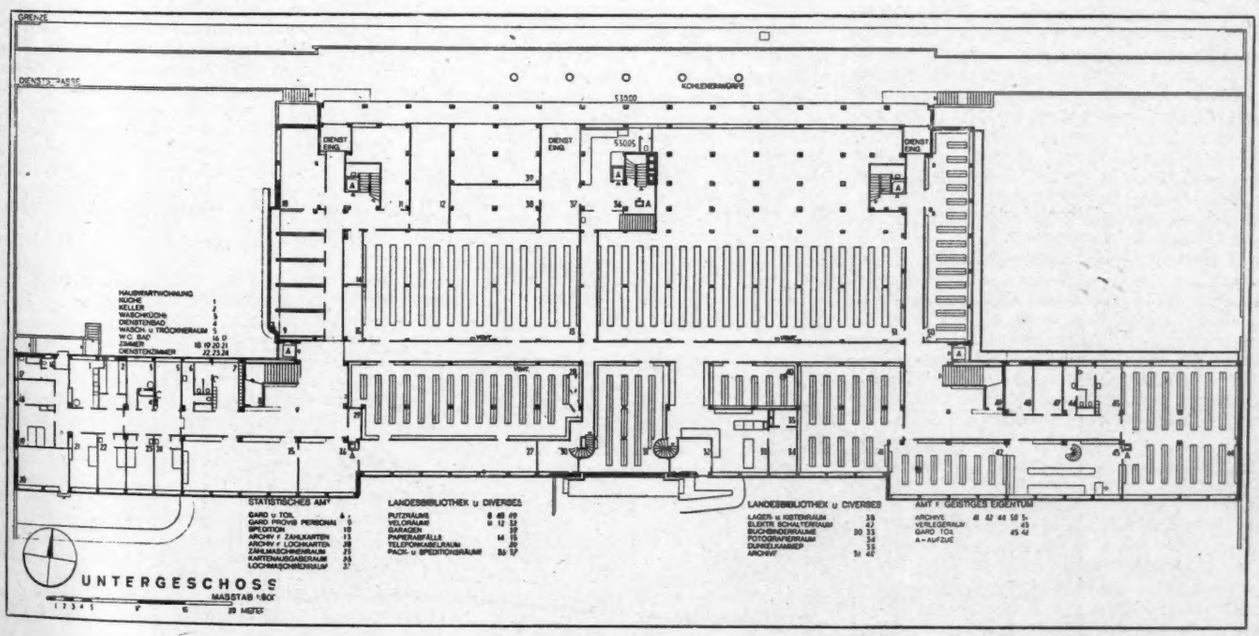
THE "ODEON" CINEMA, WIMBLEDON.

MESSRS. YATES, COOK AND DARBYSHIRE Architects.

(See page 878.)



GROUND-FLOOR PLAN.



BASEMENT PLAN.

THE SWISS NATIONAL LIBRARY, BERNE

MESSRS. OESCHGER AND KAUFMANN, OF ZURICH, AND HOFTETTLER, OF BERNE, Architects.

(See page 878.)

ILLUSTRATIONS

PLATES

The New University Library, Liverpool.

This new library is now in course of construction at Liverpool University. The architects are Messrs. Willink and Dod, F.R.I.B.A.

The " Wooden Bridge " Hotel, Guildford.

These new licensed premises have been recently erected for Messrs. Courage and Co., Ltd., on a prominent corner adjoining the Guildford-Godalming by-pass road. The falls of the road are dealt with by a system of terracing, leaving a commodious car park at the lower level and raising the building up upon a terrace above this level, meeting the road level at the higher end of the site.

The general contractor was Mr. Geo. F. Drowley, of Woking, for the main building, and Messrs. Frank Harris Bros., of Guildford, for the paving and ground work. The sub-contractors were as follows: Sussex Brick Co., bricks and tiles; Crittall Manufacturing Co., steel windows; The " Aquaheat " Co., Guildford, heating; Angel, Son and Gray, Guildford, electric light and sanitary fittings; Wm. Mallinson and Sons, Ltd., veneered English oak panelling; G. Jackson and Sons, Ltd., fibrous plaster work; Honeywill and Stein, Ltd., wood block flooring; Art Pavements and Decorations, Ltd., terrazzo paving; The Esse Stoves, cooking apparatus; Claude-General Neon Lights, Ltd., neon lighting; Parker, Winder and Achurch, Ltd., metal lettering and door furniture; Guildford Glass Works, glazing; Bayliss, Jones and Bayliss, iron gates; D. Anderson and Sons, Ltd., flat roofing; Trent Concrete, Ltd., reconstructed stone; Edward Wood and Co., Ltd., constructional steelwork.

The architect is Mr. G. Maxwell Aylwin, F.R.I.B.A., of Farnham, Surrey.

The Arsenal Stadium, Highbury: New East Stand.

Demolition work is now in hand to make way for this new building, the cost of which will be approximately £100,000. The building is of steel-frame construction, with a brick rendered elevation to Avenall-road. The accommodation includes administration headquarters, players' quarters, baths, treatment-rooms, directors'-rooms, ladies' drawing-room, smoking-lounge and four restaurants. In addition provision is made for broadcasting, television, a loudspeaker for traffic control, and floodlighting for the pitch, and 10,300 tip-up seats are provided. The general contractors are Messrs. Wilson Lovatt and Son, and the architect is Mr. W. B. Binnie, F.R.I.B.A., of Queen Anne's-gate. On completion of the building, further illustrations and plans will be published.

The " Odeon " Cinema, Wimbledon.

The new " Odeon " cinematograph theatre at Wimbledon is situated in Worple-road, close to the main shopping and business thoroughfare, and on the route of the trolley buses to Hampton Court. It has been designed by the architects, Messrs. Yates, Cook and Darbyshire, to the owners' special instructions, to provide the greatest measure of comfort and luxury. The theatre accommodates 1,500 persons, of whom 570 are in the balcony. Every seat throughout has a perfect and unobscured view of the picture screen, and for patrons who suffer from deafness, earphones are provided in certain seats in the stalls and balcony. Both the stalls and the balcony are reached from a spacious entrance foyer, which is tastefully decorated and laid with soft rubber flooring.

The ventilation of the auditorium is of the most efficient type, all air being washed and heated before being forced into the building, while ample extracts in the ceilings ensure the quick removal of all vitiated air; the theatre is independent of the atmospheric conditions outside, and the air will be clear and warm in fog and frost.

The fire precautions are of the latest pattern, with ample hydrants and extinguishers throughout the building; while special automatic fire shutters are provided to the openings from the operating box to ensure that it is effectively cut off in the event of fire in the projectors. The projectors and sound equipment are of the latest pattern and of British manufacture, and will give perfect projection and illumination of the pictures and clear and faithful sound reproduction.

The exterior of the theatre is attractively designed in the modern style and finished with glazed material of a cream colour, with the architectural features accentuated in deeper colours, the whole being illuminated at night by flood lights and " Neon " tubing.

The interior is treated in the modern style and finished generally in a rich gold, with the various architectural features picked out in colour; the proscenium opening is framed in a rich surround with fluted bands and modelled panels. The whole of the lighting of the auditorium is concealed and a diffused light is projected over the whole of the decoration without the lamps being visible. The seats are covered in green velour to match the carpets. The proscenium opening has rich curtains of Rose du Barry velour with gold enrichments.

The general contractors were Messrs. Rice and Son, Ltd., and the sub-contractors were as follows: Smith Walker, Ltd., steelwork; Concrete, Ltd., concrete floors, stairs and balcony; James Couper, Ltd., steel windows and skylights; Doulton, Ltd., faience and sanitary fittings; Pyrene, Ltd., fire hydrants, etc.; British Vacuum Cleaner Co., vacuum cleaners; Art Pavements and Decorations, Ltd., flooring (terrazzo); Joseph F. Ebner, Ltd., flooring (wood-block); The British Doloment Co., Ltd., flooring (jointless); J. Jeffreys, Ltd., heating and ventilation; The Berkeley Electrical Co., Ltd., electric lighting and equipment; Best and Lloyd, electric fittings; Peradin, Ltd., rubber flooring; De Jong and Co., Ltd., interior decoration; W. J. Furse and Co., Ltd., Nottingham, fire shutters; The Wandsworth and District Gas Co., gas services; Kingsmill Metal Co., Ltd., entrance canopy, handrails, and flagstaffs; Newalls Insulation Co., Ltd, acoustic plastering; Parker, Winder and Achurch, Ltd., ironmongery.

The Swiss National Library, Berne.

In the course of a reference to this library in his recent paper on " Library Planning," read before the R.I.B.A. (reported in our last issue), Mr. Harold Dod, F.R.I.B.A., referred to it as being " remarkable for the directness of its plan and the simple manner of its carrying out. It cannot, I think," he proceeded, " fail to make a great impression. Continental library experts hold that a large library must be planned from the book stacks, and Berne certainly exemplifies this by the dominating character of its nine-story stack. The main reading room, the catalogue room, the periodical room and also an exhibition room are arranged in a single top-lighted block placed in front of the stack and running lengthwise with it. In the wings are various State administrative rooms, State archives, etc. In the interior the use made of glazed screens to divide the various rooms from one another gives an impression of lightness and space generally absent from library interiors—it also makes supervision a comparatively easy matter."

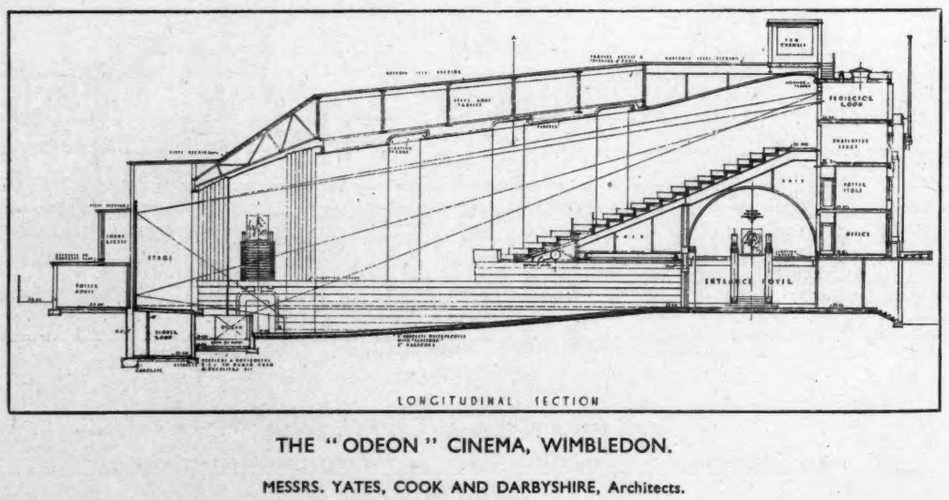
The architects are Messrs. Oeschger and Kaufmann, of Zurich, and Hoftettler, of Berne.

The Sweden Year-Book.

The 1936 edition of the Sweden Year-Book has recently been published by the Ministry of Foreign Affairs in Stockholm. It is a compact but remarkably informative book of reference to the resources of the country, and its arts and literature. There are excellent illustrated chapters on Industrial Arts and Crafts and on Architecture.

Carnegie United Kingdom Trust.

The Trustees' Twenty-second Annual Report (1935) is now issued. It consists of two main sections: (1) A General Survey, dealing with the trustees' large allocations for land settlement, music, and youth services; and (2) a series of chapters dealing with the main activities of the past year. The establishment of village halls, boys' and girls' clubs, land settlement colonies and the provision of playing fields are some only of the Trust's activities.



THE " ODEON " CINEMA, WIMBLEDON.

MESSRS. YATES, COOK AND DARBYSHIRE, Architects.

PROCEDURE AND PLANNING FOR A MUNICIPAL AIRPORT—III.

By H. F. HOAR, B.A., A.R.I.B.A., A.M.T.P.I.

Buildings for the Airport.

THE modern practice is to group all the buildings other than the actual hangars into one large building. This will include a large concourse, around which are grouped shops, air-line offices, administration offices, restaurants, kitchens, messrooms, changing rooms and lavatories, stores, Customs, and strong-rooms. A control room may be included or housed in a separate building with the fire engine and apparatus. Stores for petrol and oil will also be set apart.

Before erecting the hangars, the size of the 'planes using them must be considered and provision made for larger 'planes which may later use the airport. Then the question of erecting single or multiple hangars must be studied. Single hangars will be more expensive, but in case of fire the loss will be far greater if the machines are housed in multiple buildings. Ample space should be allowed for the movement of 'planes in the hangar, and openings should be wide enough to clear the largest machines by two or three feet, and high enough by 12 inches to clear the propellers when vertical.

Hangars are constructed in steel or reinforced concrete. When of timber, the risk of fire is too considerable. The steel hangar is now generally used for its low cost of maintenance, minimum risk of fire, and permanence.

Floors to hangars may be of concrete, cinder, timber, or sand and gravel. A cinder floor 6 in. in depth will be found fairly satisfactory, as it absorbs oil and petrol and becomes quite hard in time, and maintenance is relatively cheap. A timber floor may be laid over this, formed of creosoted 3-in. by 4-in. sleepers at 18-in. centres, with 1-in. boards creosoted on the underside. Over this are laid diagonally 1-in. boards, which are firmly nailed down. In the case of concrete floors the surface should be left a little rough, as a smooth finish is undesirable.

There are several types of hangar doors in use, some being more easy to manipulate than others. It has been found that the horizontally hinged door does not stand up to a lot of use. The rolling shutter and sliding doors are more satisfactory and more expensive, but are less costly in maintenance and easier to move. The bascule and rolling-shutter types, which are operated by motor, are the best but the most expensive. Whatever type is used will depend on the needs of the airport and the funds available. Garages and repair shops are now situated behind or at the side of the hangars. Wood block floors are the most practical for shops. There should be ample light by day and night, and for staff efficiency all work- and machine-shops should be heated.

A small overhead crane is generally very useful in hangars for the removal of heavy objects, so that some at least of the steel trusses should be powerful enough to bear the weight. It is also uneconomical to heat a steel-framed building that is not lined on the inside, and, if possible, every hangar or shop building should be provided with a lavatory and washing facilities.

The terminal building now provides for all such accommodation, such as Customs rooms and barriers, Customs watch, C.I.D. detention and search rooms; for doctors, matrons and first aid; for stores for freight and strong rooms, lavatories for men and women passengers and staff, telephone boxes, post office, newspapers, tobacconists and show cases, air-line offices, snack-bar and lounge. It may also include changing rooms, barbers' shops, restaurants, kitchens and staff mess-rooms and administrative offices. The control tower is sometimes placed on the top of the terminal building, which may be connected with a railway station and a hotel, so that passengers arriving late need not travel to the near-by town before resting. The latest buildings are permanent structures of brick and steel or reinforced concrete.

The control tower should be placed where an uninterrupted view of the landing field and the surrounding country may be obtained. It will be equipped with telephone, wireless apparatus, alarm and emergency call system, etc., and everything that modern science has devised for the control of machines landing in fog. The room will be surrounded by a balcony for use in fair weather, and window space will predominate.

Maintenance and Equipment.

Electric light and power are essential, and if impossible to obtain from outside, a supply should be installed which should be sufficient for night-flying equipment and electric tools as well as the lighting of the buildings and hangars. The night-flying lighting may be considerable. A small tractor for grass cutting and with load repair attachments is very useful, and a fire engine and fire-fighting equipment is also required by Air Ministry regulations. The question of protective measures against fire will be discussed in greater detail in a succeeding article.

Petrol is most safely stored underground and provided with pumps. The tanks should not be near any building when in large quantities, and the vent pipe and filler pipe should be at least 50 ft. away. Fairly long hoses of about 25 ft., attached to vertical riser pipes, should be included. Storage for petrol should be from 20 to 25 times the volume of oil. The petrol is sometimes stored in underground tanks, and a pipe system with several outlets at necessary positions is installed. A flexible hose on a reel is included in the outlet, which takes the form of a box let into the field with the top flush with the ground level, and including a meter for measuring the amount of petrol, delivered to each machine. Each box should be provided with a cover which can be locked.

Electric heaters for water and oil should also be installed for use in cold weather.

Wheel chocks are essential to prevent the machine from moving, and a "dolly" for carrying the tail skid of an aeroplane is most useful. In the case of heavy machines, a type of dolly on the jacking principle should be used for lifting the tails where manual labour is impracticable.

Some form of wind indicator is absolutely essential. The well-known cones or a smoke column in the middle of the landing field may be used. Both respond to every slight movement of wind. Cones are either yellow or orange, and an oil burning with a white smoke is most easily visible. Wind cones should be placed out of all local gusts caused by buildings, and are best placed well above the hangers.

First-aid equipment should also be provided in the form of bandages, dressings for burns, tourniquets, iodine and ammonia. At large airports an ambulance and special first-aid rooms with a matron and nurses in constant attendance are necessary.

Protection from Fire.

There is always a serious risk of fire, even at the most modern of airports, on account of the stores of oil and petrol. Every precaution must therefore be taken to prevent a fire from starting, to limit the fire if started, and to provide adequate means of extinguishing it.

Fire can be prevented by the storage of all inflammable materials in special buildings and prohibiting the use of open stores or smoking. Another mode of prevention is by the judicious spacing of the various buildings, and the installation of an electric fire alarm. Where funds permit, a water system should be constructed with hydrants close to each building. All such hydrants, fire engine house and fire-fighting equipment should be painted a bright red, and none of this equipment should be kept locked. Each building should also be provided with one fire extinguisher, whatever the size of the building.

Care should be taken that chemical extinguishers are so placed that they will not freeze in cold weather. The foam type and the soda-and-acid type both freeze at about the same temperature as water, but the calcium chloride and the carbon tetrachloride types usually contain materials which prevent them from freezing in all but the most severe weather. Dry sand is of some use as a fire extinguisher, but it should be regarded as an auxiliary to the chemical extinguishers. All the fire-fighting apparatus should be inspected at regular and close intervals, and a record kept on each unit of the date of such inspections.

Airports for Seaplanes.

In England the disasters to our great airships are still a vivid memory, and no further attempts to solve the airship problem have been made since the last great dirigible crashed at Beauvais with fearful loss of life. We are, however, well to the fore in establishing an air route across the Northern Atlantic, and airports for the use of passenger-carrying seaplanes are being rapidly constructed at convenient bases.

There are two classes of such bases which have to be considered—those which are situated on rivers or lakes which are free from rough water and those on the sea where the water is never smooth and a sheltered situation is necessary for landing or taking off. In the first case pilots can take off or land at some distance from the shore and taxi towards the beach, but landing in rough water is another matter.

In the second case, therefore, a stretch of water protected to some extent must be looked for. Where the water is too sheltered the sea becomes as smooth as glass in calm weather, and pilots experience difficulty in judging their height above it. The areas surrounding the "sea-drome" must be free from drift-wood, which might damage the hulls of the boats, and must not be near parts that may be used by bathers and small boats lest accidents occur.

The minimum area of water for alighting should be 3,000 ft. long by 1,000 ft. wide. This area will, of course, vary as types of machines and surroundings dictate, but greater areas are desirable. As on land, the longest run will be in the direction of the most frequent take-off, and the most convenient shape will approximate to a circle. Seaplanes usually demand a larger space on which to alight than in the case of land-planes. Again, the surroundings should be free from obstructions, as such obstructions will, as on land, render useless a stretch of water equal to ten or twelve times their height. A depth of 6 ft. is sufficient draft for present-day needs, and 3 ft. for smaller 'planes. With the advent of the trans-oceanic machine this depth will probably be necessarily increased. The areas for alighting must also be free from strong currents.

At least one motor-boat is essential for the transport of passengers and fuel, although no doubt future seadromes will enable passengers to land directly on to a construction in the form of a pier built out into the sea and connected by a bridge to the mainland.

Slipways from the hangars to the water should not incline at an angle greater than 10 deg.; this angle should not necessitate the use of mechanical power for the haulage of seaplanes of moderate size. These slipways will be carried out sufficiently below low-water level to allow of their use without dependence upon tides.

(To be concluded.)

H

ELECTRICAL INSTALLATIONS

THE NEED FOR SOUND MATERIALS AND WORKMANSHIP

By Sir EDWARD M. MOUNTAIN, Bart.
(Chairman, Eagle, Star and British Dominions Insurance Co., Ltd.)

I HAVE been much disturbed of late by the reports which the surveyors in our Fire Department have made to me concerning the increase in fires due to defective electrical installations. An investigation has shown that we may expect an increase in fires due to this cause, with their inevitable loss of life, in private houses, factories, shops, etc. That the danger is already acute was proved in the dreadful fire in Wimpole-street, where five persons lost their lives, and which the coroner found to have been due to an old wood-case installation, the insulation of the wiring in the basement having become damp and defective.

Four main factors prompt the belief that much trouble is in store if the country's electrical equipment is not overhauled by competent workmen. These are :—

(1) Increased availability of current due to the grid system, including hazards of change-over on existing installations originally designed for lower voltages.

(2) Poor materials and the employment of youths and unskilled labour under the contract system in cheap houses on modern estates.

(3) Efforts of amateurs in making alterations, extensions, repairs, etc., in their homes.

(4) New installations of shoddy materials sold at cut prices.

Experience over many years has resulted in excellent rules for the safe installation of electricity in premises of every sort, and any serious deviation from these rules, or departure from the recognised and proved standards of materials or workmanship, will, in due course, result in trouble which may be costly and far-reaching.

The amateur who tinkers with electrical equipment at home may definitely be called a creator of hazard to property and to his own life and of those around him. He has mainly developed in recent years, and radio seems to account for many of his number. After finding that he has little trouble in adjusting the slight amount of electricity which radio requires, this type of amateur has been encouraged to go on to more ambitious projects, thinking that he might as well do the job himself and save the expense of a qualified electrician.

Much of the responsibility for the development of this dangerous tinkerer must also be borne by those newspapers and other publications which print articles telling their readers how to do odd jobs of electrical work themselves. When one considers that there are 1,200 rules of the Institute of Electrical Engineers by which qualified electricians are guided, and that a long and arduous course of training is needed to learn them, the fantastic character of these articles of advice to amateurs becomes apparent. As Professor Wall, of Sheffield University, said to the annual conference of the Institution of Fire Engineers, "there seems little doubt that many electrical installations are made a menace to public safety by the tinkering methods of the handy man. It would not be tolerated by any public service."

All over the country there are small shops selling mass-produced electrical fittings. Some of these appliances are good value for money if used only for the purpose for which they were designed, but in countless cases buyers use them for entirely different purposes. A typical example is the use of very thin and poorly insulated "flexible" only intended for wireless, used for other purposes requiring a much heavier load. Many of these accessories are of foreign origin, and it is next to impossible to trace back responsibility to the maker if anything goes wrong. A man was recently electrocuted in this country owing to a defective foreign-made lamp standard.

Another danger comes from cut-price new installations. In these days of intense competition quality is often sacrificed for cheapness. In many cases, shopkeepers or factory tenants obtain a variety of quotations and then give the work to the firm quoting the lowest price. Our surveyors have found that even in some factories which are fitted up with modern plant and machinery and are ideal in other respects, there is slip-tubing installation without continuity fittings. This, of course, is the cheapest form of conduit installation and is not allowed by the Institute rules.

Cheap Fittings a False Economy.

Moreover, apart from the danger of loss of life and of fire, these cheap installations are often false economy in other respects. Electricity flows without odour, sound or other warning of its presence, and unlike gas or water its leakage often remains unnoticed. Therefore the poorer the materials used the greater the chance of undetected leakage. One of our surveyors once proved this conclusively to a factory owner who had put in a particularly cheap installation. He asked that all lamps and appliances be switched off. After this was done the meter showed that current was still passing; the owner was thus paying night and day for wasted current.

Another danger of awarding electrical work to a suspiciously cheap bidder is that even skilled workers are under a great disadvantage when working under a time limit. In obeying orders they sometimes have to skimp work and do many things which their training tells them are wrong and contrary to good wiring practice. One "economy" which these cheap firms often practise is to avoid the use of conduit under floors, and in other places where the wiring is out of sight, and by other dodges of a technical nature which it is unnecessary to refer to in detail here.

Danger, again, often arises from additions made to a circuit which is already fully loaded. This is a subtle danger, because it often arises merely from the use of lamps of a higher wattage than had been planned for in the original installation. It is hardly necessary to mention the danger that comes in this respect from the use of power appliances on circuits which were only intended for lighting.

Another danger, which really amounts to a matter of broad public policy, concerns the multitude of cheap houses which are being built, or thrown together, on new estates. Many of these houses will, in the near future, create an extremely serious problem for their owners, for lenders, and for fire insurance companies. Owing to the shoddy materials used, inferior bricks and mortar, poor roofing materials, and a host of other defects, these houses are bound to deteriorate at a rapid rate.

The use of shoddy materials is not confined to the actual structure, but is also to be found in the internal fittings, among the most important of which is the electrical installation. Much of the work on these large estates, I am told, is contracted for, not to a detailed specification of materials and wiring, but simply to so many lighting and power points. In other words, the firm submitting the lowest quotation receives the contract and they are then at liberty to use whatever materials they choose, provided the requisite number of points per house are installed (these being what nine out of ten persons look for when inspecting a house with the idea of buying or leasing).

Unfortunately, the actual points are all that is visible in a completed house, the most important portions of the installation, the wiring, jointing, etc., being hidden behind plaster or under floors. Many of the electrical faults already enumerated are to be found in these cheap houses, together with many other faults due to unskilled labour, the employment of youths or careless and irresponsible persons.

The electrical supply company are by law only required to carry out an insulation-resistance and earth test, and apart from this there is no other authority interested in the safety or otherwise of an installation. Tests are not made by any local authority or by any building society. One of our surveyors recently said to me: "In my private capacity I have inspected many of these cheap houses, and after observing (before it was finally hidden) the electric wiring, have found that the mildest word to describe it is 'shoddy.'" This shoddy work eventually means danger, and that means ultimate fire and loss of human life.

The development of the grid system, while beneficial in countless ways, has created problems which ought to be considered by users of electricity of a different voltage than that which was decided upon by the Central Electricity Board as a standard for the entire country. Prior to 1921 there were 600 different sources of electrical supply in England, comprising every conceivable variety of current. It has been a great advance to bring about this standardisation of electrical supply, but it is too often forgotten that installations must be standardised in harmony with the new voltages as well.

Where local power stations take supplies from the grid system, an increase of voltage often becomes necessary. Existing installations in the district may have been wired for, say, 100 volts, and owing to the change-over this is increased to 220. This represents more than double the previous electrical pressure, a pressure above earth potential, which is seeking weak spots in the insulation to send current to earth. Such leakage may easily cause fire.

In districts where the voltage is increased there is no danger of the current-carrying capacity of the wiring being exceeded, as the current is reduced in proportion to the voltage increase, but there is a very real danger that the insulation and fittings, etc., especially if old, will not withstand double or more pressure.

Finally, there are thousands of private houses and other structures in this country where the electrical installation is thirty or forty years' old. In those early days not a great deal was known about electricity, and it is common knowledge that many dangerous practices with regard to insulation, etc., were unthinkingly used. Many of these installations have now reached the danger point, and are likely to be the source of fire when conditions for ignition happen to be favourable.

Owners may say, "Well, I carry fire insurance to protect myself against that risk." That is all very well, and if there were no fires there would be no fire insurance companies, but as the Wimpole-street tragedy proved, loss of life may be involved would be well advised to obtain a report from a competent source on the real condition of the electrical installation on his premises.

Bristol Exhibition of Research Work.

An exhibition, illustrating the work of the building research organisation of the Department of Scientific and Industrial Research, was opened recently at the Merchant Venturers' Technical College, Bristol. The exhibition, arranged by the Building Department of the college in co-operation with the building industry of the West Country, will be open daily until October 23. It covers a wide range of building materials and methods of construction, new and old, and embraces the problems of heating, lighting and ventilation which arise in making a building comfortable. At a conference arranged in connection with the exhibition Dr. R. E. Stradling, the Director of Building Research under the Department, spoke on science and new building materials.

DESIGNING IN GRANITE

MEETING OF THE ARCHITECTURAL ASSOCIATION.

THE result of the competition organised by the Architectural Association for the Cornish Quarry Masters' Association was announced at a meeting held at 34, 35, 36, Bedford-square, W.C.1, on Wednesday, April 22. Mr. C. Lovett Gill, F.R.I.B.A., Past President of the Association, occupied the chair, and was supported by Mr. M. L. Weatherall, Mr. E. F. Wettern and Mr. L. F. Ebbutt, of the Cornish Quarry Masters' Association, and by Mr. Goodhart-Rendel, F.R.I.B.A., Director of the Architectural Association, and Mr. J. R. Leathart, F.R.I.B.A., Vice-President, who gave a criticism of the designs submitted. The winning design was illustrated in our last issue.

The chairman, in the course of a few introductory remarks, thanked the Cornish Quarry Masters' Association in that for the fifth year in succession they had provided the A.A. with a prize for a design in the material which they handled. He thought it was a great advantage to have a yearly competition in a certain material. That competition enabled the characteristics of granite to be studied. Granite was essentially a British material. He did not know whether Swedish granite had, since the tariffs came in, been imported in the same way as before, but he sincerely hoped that the action of the Cornish Quarry Masters in giving that prize had resulted in more British granite being used.

The prizes having been presented to Mr. C. J. Keates and Mr. R. Leacroft, the winners of the first and second prizes (Mr. John D. Maidment, the winner of the third prize, was unable to be present), Mr. J. R. Leathart gave a criticism of the designs. He said his task was to deputise for the President, Mr. Pakington, and to convey to them the observations of the jury. The problem in this particular design was quite simple: it was really the problem of designing three holes in a granite wall. It was remarkable, in contemplating these designs, to observe that the shape of the tunnel as expressed on the elevation had taken a number of diverse forms. Fundamentally, a tunnel should always be semicircular in shape, and the problem as set out in the programme showed a semicircular-shaped tunnel; yet they had square openings to the main arch, and one curious four-sided affair inscribed within the semicircle.

The majority of the designs, however, frankly accepted the arch, and in the design placed first—No. 10—the arch was given its due prominence as the focal part of the design This design was broad and virile in treatment. It was essentially a granite design, and that was an important consideration in the minds of the jury in coming to their award. The interest was concentrated on the main opening, which was accentuated by a very emphatic archivolt. The arch looked as though it was doing properly its job of supporting the weight of the earth above the tunnel. The sizes of the stones and joints, generally speaking, were very well arranged, but the proportion of small stones might have been reduced with advantage. The face dressing attained the maximum effect consistent with economy.

The jury were of opinion that the side abutments were slightly too much battered. Although the shape was quite pleasant, they thought that the abutments might have been a little less acute in their angle, and the masonry beds would have been more in accordance with good masonry practice had they been arranged at right angles to the sloping faces; by this means feather-edging would have been avoided and each stone would have been rectangular in shape. This might have effected a slight economy in the cost of working the stones. The coping was a trifle coarse in treatment. It expressed the strength of granite, but the overhang was rather deep and it might possibly be thought too heavy in character. The side entrances were well arranged in relation to the main archway, in that the lintels came well below the springing of the main arch. The jury thought that a somewhat bolder treatment of the lintels to those side arches might have brought these more in relation to the scale of the main arch. The tiny keystone was rather fussy; it had apparently some enrichment or carving on it.

With regard to the planning for traffic, which was tacked on to this problem—personally he thought a little unnecessarily, although, of course, it had to be considered in the general design of the approach to the tunnel—he was told that the throating of the roadway at the tunnel's mouth was a point of criticism. It was considered that it was preferable to narrow-in the roadway immediately behind the pay kiosks at the top of the inclined way. More space for the congregation of cars in front of the kiosks should have been provided. Another point of criticism was the slope of the side cycle- and footways, which descended sharply towards the tunnel entrances. It was considered that if the slope had started from the top in one slow slope and had no relationship with the main roadway—and it need not have—it would have been preferable.

The rendering of the winning design was by far the best of all the designs submitted. It was expressive of both the design and the material, and was, he understood, a magnificent example of that technique which bore the queer name of "smooch." It was a very capable design and drawing and was easily the winner.

The design placed second—No. 23—had, as regards the wall-front proper, points of superiority over that placed first. The vertical accentuation counteracted the comparatively long, low width and would produce in execution an interesting play of light and shade. The triple arch treatment, struck from one common springing level, produced a not altogether too pleasant shape at the point of intersection of the arches, and also the vertical accentuations above were almost symmetrically arranged about the extrados of those two arches. One point about those arches was that, so far as they were able to ascertain from the report, the construction of the arch ribs was not in granite, but was a concrete-covered extension of the steel framework of the tunnel itself. This was a frank statement of structural form which the jury considered nearly "rang the bell" for the first prize.

The design placed third (No. 29) had fundamental points of similarity with the winner, but it was in the treatment of the design in detail that points were lost. The arch treatment was not strong enough to express the material; it was more suitable to ordinary stone construction. The design had a monumental quality, but this was largely negatived by the character of the detail, which, where it burst into a "permanent wave" at the top, was merely frivolous and hardly in character with the strength and sternness of granite. While the dimensions of stones were well varied, narrow courses of only 12 inches should be avoided with rock-faced work. Details of construction were lacking on this design. The traffic arrangements appeared to have been given much thought, but the unfortunate cyclist had a difficult turn to make at the end of the slope.

Having commented on some of the other designs submitted, the speaker said that, generally speaking, the jury felt that the response to this year's subject had been rather disappointing, both in the numbers of designs submitted and in the standard of quality. It ought to have been, and indeed was, an interesting subject, and he thought that it should have attracted more notice.

The lecturer concluded his address by showing a few slides of recent work in granite.

Mr. E. R. Wettern, having thanked Mr. Leathart for his address, and the Architectural Association for its help in arranging the competition, and Mr. Rowse for the valuable assistance which he had given, not only this year but in the past, said that the good work of taking the County of Cornwall to pieces and re-erecting it in London and elsewhere had been proceeding apace, and some thousands of tons of Cornish granite had gone to the erection of buildings and bridges and other structures in various places. It might be of interest to mention that in addition to the recent work shown on the slides there were several other large contracts which either were being or had recently been executed, and among them he would mention the new Chelsea Bridge and the new buildings for London University. There was also the new Liverpool Cathedral, which he believed was going to be one of the largest buildings of modern times. As an example of another type of building he might mention the new Gerrard-street telephone exchange, which had been done in polished granite. Polished granite was perhaps worthy of special mention, because it fulfilled one outstanding requirement of modern times in its extreme cleanliness. Polished granite did not retain dirt and it did not craze; moreover—it was perhaps a minor point, but is of some practical importance—neither children nor politicians could scribble on it. He thought, therefore, that it was worthy of considerably more extended use than it met with at present.

The chairman, in bringing the meeting to a close, said they hoped that, just as the Cornish quarries supplied the granite for the original Waterloo Bridge, so they might have the opportunity of supplying the granite for the new one. He would also like to thank Mr. Leathart for his very careful criticism of the designs.

SOCIETIES & INSTITUTIONS

ROYAL SANITARY INSTITUTE.

Royal Patronage.

His Majesty the King has granted his patronage to the Royal Sanitary Institute.

INSTITUTION OF CIVIL ENGINEERS.

The Corrosion of Iron and Steel.

At a meeting of the Institution of Civil Engineers held on Tuesday, April 7, Sir Robert A. Hadfield, Bart., D.Sc., M.Inst.C.E., and Mr. S. A. Main, discussed some important problems concerning the corrosion of iron and steel, a subject which had been studied for nineteen years by the Committee of the Institution on the "Deterioration of Structures Exposed to Sea Action." They pointed out that now that the united efforts of metallurgists, engineers, chemists and scientific workers had been organised into a world campaign against corrosion, it would be expected that their work would go far towards finding a solution of the problem. They said that they proposed to review the activities since the date of the previous paper by Sir Robert Hadfield on the "Corrosion of Ferrous Metals" at the Institution in 1922, and to give some account of the further knowledge gained of the effects and nature of corrosion which would be of interest to all concerned with harbour works or other marine structures.

The authors stated that in the original scheme of research, fourteen types of material covering irons rolled and forged, carbon steels, special steels and cast irons had been included, and that a further material representing chromium steel of low carbon content had been added later. Whilst the specimens in the main series of tests were distributed to stations at Auckland, Colombo, Halifax (Nova Scotia), and Plymouth, the further series of tests they were now describing were based on tests at Ipswich, the Thames Estuary, the North Sea, and the Gulf of Paria in Trinidad, and also on exposure tests in an urban atmosphere at Birmingham, and on marine buoys under the control of Trinity House at Ramsgate representing open sea

conditions, at Harwich where the rough weather conditions are not so severe, and in the sea-reach of the Thames Estuary, where the water was rather less saline, and might therefore be expected to be different in its corrosive effects.

The carbon and special steels were produced for the Committee by Messrs. Hadfields, Ltd., of Sheffield; altogether, 1,350 specimens were prepared. It was interesting to note that as regards the specimens exposed wholly in air, the order of increasing severity for general wastage was always Halifax, Auckland, Plymouth, and Colombo, and here climatic temperature, which is highest at Colombo and lowest at Halifax, must have a large influence in promoting corrosion. This factor did not apply to the same extent under half-tide conditions or when the specimens were totally immersed, although it was an important factor. The local character of the sea-water itself might be of more importance than its temperature. The evidence as to the behaviour of iron and steel under half-tide conditions was especially instructive, contrary as it was to the widely accepted idea that exposure between wind and water was particularly favourable to corrosion. In the large majority of cases among ordinary steels and rolled irons the wastage at half-tide was intermediate between that experienced under aerial and total immersion conditions.

The results obtained from testing of roofing sheetings were of interest to many users. It was stated that the advantages of low-percentage copper steel were being appreciated to the extent that many thousands of tons are being supplied annually and that Dr. F. N. Speller had estimated that about nine million tons had been produced in the world during the previous 20 years. It had, however, certain limitations, and disappointment might result in some cases. Nickel steels and chromium steel were also discussed; and, in connection with the use of the latter in river water, the authors mentioned that the softer grade of chromium steel (rustless iron) had been successfully used for the staunching bars of the Sennar Dam on the Upper Nile. Its behaviour when totally immersed in sea-water was, however, anything but satisfactory.

The authors gave some examples of the severity of the corrosion experienced in the Gulf of Paria, where the United British Oilfields of Trinidad, Ltd., reported that a $\frac{5}{16}$ in. mild steel plate forming the bottom of a storage tank was eaten through in nine months, and when it was drying off after the removal of the tank it became quite hot, due to the chemical action still going on. The tests carried out in this area confirmed that the advantages to be anticipated from the use of alloy steels in under-water were not so marked as under aerial or half-tide conditions.

Among the problems discussed, special mention was made of protective oxide films, which are not more than 1.6 millionth of an inch in thickness, and provide an armour or first line of defence for the metal against corrosion, and must be penetrated before the ordinary electro-chemical processes of corrosion can get to work. The rôle played by oxygen in corrosion processes, and the extent to which "differential aeration" is effective in emphasising the peculiarities in corrosion, were discussed, as well as the importance of the effect of deposited dust particles and of corrosion fatigue.

As regards general wastage, the authors stated that in most cases, taking into account all the twelve methods and locations of marine exposure, the removal of the rolling-mill scale previous to exposure had the effect of increasing the amount of the general corrosion. As regards pitting, however, its influence was almost entirely favourable, and as a general average the depth of the deepest pit was reduced from 2.14 millimetres to 0.92 millimetre.

The best and most reliable material among those available at the present stage of development of alloy steels appeared to be steel containing about 36 per cent. of nickel. For carbon steels with the scale on, those high in sulphur and phosphorous proved the least satisfactory. The addition of small percentages of copper was shown to be of some benefit. The addition of chromium appeared beneficial in the tests above high-water mark, but in the half-tide and complete immersion tests it resulted in excessive pitting.

On the other hand, the wastage of the cast irons was, under similar conditions, generally very much less than that of the rolled irons and steels, and the pitting that they experienced was negligible in a five-year test. It should be recognised, however, that the true assessment of relative merits would depend to some extent upon the form in which the materials were to be used. The choice of cast iron in preference to rolled iron or steel in portions of marine structures was naturally determined to a large extent by its greater suitability, from a purely constructional point of view, for particular members.

The results obtained in this research might encourage a preference for cast iron, on the grounds of its lesser corrodibility, and so far as aerial conditions were concerned, this would seem to be justified. The internal corrosion which the cast irons suffered in contact with the sea, and even under aerial conditions in a hot climate as at Colombo, rather tended, however, to establish the preference in favour of rolled irons or steels where such conditions were concerned.

[A summary of the "Fifteenth Report of the Committee of the Institution of Civil Engineers on the Deterioration of Structures of Timber, Metal and Concrete Exposed to the Action of Sea-Water," issued on behalf of the Committee by the Department of Scientific and Industrial Research (H.M. Stationery Office), was given in our issue for March 27.]

DISTRICT SOCIETY OF ARCHITECTS AND SURVEYORS.

Mr. J. Amory Teather was installed as President of the Sheffield, South Yorkshire and District Society of Architects and Surveyors at the annual meeting, and Mr. H. B. S. Gibbs was re-elected hon. secretary. Other appointments included those of Mr. W. G. Davies as vice-President, and Mr. C. M. Hadfield as hon. treasurer (in succession to the late Mr. J. R. Wigfull). Mr. Gibbs reported that the membership totalled 152. It was satisfactory to know that a number of houses were being erected from the designs sent in for the competition for small houses held last year by the Society in co-operation with the local branch of the Council for the Preservation of Rural England.

They had contributed £21 towards the University funds. The number of students in the Department of Architecture was continually increasing. Through the generosity of the University Council a grant was made towards the library of the department for the purchase of architectural books.

LAW REPORT

KING'S BENCH DIVISION.

Before MR. JUSTICE MACNAGHTEN.

DISPUTE IN GLAZING CONTRACT.

A. Goldstein and Co. (Glass Merchants), Ltd., v. Marendaz Special Cars, Ltd.

In this case the plaintiffs, A. Goldstein and Co. (glass merchants), Ltd., of 100, Westminster Bridge-road, London, brought the action to recover £171 alleged to be due on each of two bills of exchange drawn by the plaintiffs and accepted by the defendants, Marendaz Special Cars, Ltd., of Cookham-road, Maidenhead.

The defendants admitted accepting the bills, but alleged that by reason of the facts relating to them there was a failure of consideration for their acceptance of them, and that under their counter-claim they were entitled to recover from the plaintiffs a sum sufficient to set off any sum due to the plaintiffs under the bills of exchange. In these circumstances the only issue for determination was the counter-claim.

By their counter-claim the defendants alleged that by a contract dated May 16, 1935, made between them and the plaintiffs, the latter agreed to carry out certain work for defendants at their works at Maidenhead, such work being the glazing of an extension of such works. It was, *inter alia*, a condition of the contract: (*a*) That the plaintiffs should glaze with patent bars, as sample supplied, and with best quality ¼-in. cast glass the whole of defendant's works extensions so that such works should conform completely and be finished in the same manner as their existing works with the exception of the vertical glazing, which was to differ in one respect, namely, that the plaintiffs were to use the said glazing bars instead of the wood bars on the existing buildings; (*b*) that plaintiffs should supply and fix all lead flashings identical with those in the existing buildings; (*c*) that the work was to be done and materials supplied to the defendant's satisfaction as regarded finish and all other matters; (*d*) that the plaintiffs guaranteed the work done and materials supplied against leaks, bad workmanship and all other causes and defects, with the exception of glass breakage that might occur through an outside agent; (*e*) and that the price of the work would be £342.

The defendants said that upon that representation by the plaintiffs they agreed to accept the two bills of exchange upon which they brought the action, and they (defendants) alleged the work done by the plaintiffs and the materials supplied were faulty and not in accordance with the contract. They said that the bars were not of the best quality; that the work done by the plaintiffs did not conform, and was not finished in the same manner as on defendants' existing works; that the work was not done to their satisfaction as regarded finish and other matters set out in the particulars; and that the plaintiffs had failed to keep the guarantee. The defendants said that by reason of these breaches of contract by the plaintiffs they would have to strip the whole roof at the estimated cost of £343 15s., but which might prove to be more when the work was carried out. Defendants pleaded that, in the event of the Court holding that there was no failure of consideration in respect of the bills of exchange upon which the action was brought, they counter-claimed for £367 5s.; but in the event of the Court holding that there was a failure of consideration then they counter-claimed for £25 5s.

The plaintiffs, in reply to the allegations made by the defendants in their counter-claim, denied that the work they had done and the materials supplied were faulty and not in accordance with the contract. They alleged that the sagging and the trouble that had arisen was due to the purlins being too weak, and that as the defendants were responsible for the purlins, no liability attached to plaintiffs.

His lordship, after hearing the evidence that had been given on behalf of the parties, in giving judgment, said the contract related to the glazing of four bays, one vertical, and the other three sloping. He decided that in the case of the three sloping bays the timbers had not been tied together, and sagged when the glass was put in. It would, he said, take about £300 to put them right. There was no sagging in the vertical bay, and he thought that any fault there could be put right for £10. He accordingly gave judgment for the plaintiffs for £342 and costs on their claim, and for the defendants on their counter-claim for £310, with costs. There would be the usual set-off, and the £171 which had been brought into court would be paid out to the defendants.

Mr. W. N. Stable, K.C., and Mr. R. F. Levy appeared for the plaintiffs, and Mr. Edward Terrell for the defendants.

TOWN PLANNING INSTITUTE

"SOME PRACTICAL PLANNING PROBLEMS."

MAJOR LESLIE ROSEVEARE (President) took the chair at a meeting of the Institute at Caxton Hall, Westminster, on Friday night, when Mr. T. F. Thomson read a paper on "Some Practical Planning Problems."

Mr. Thomson recalled the fact that he addressed the Institute in 1933 when they were at a very interesting point in the history of statutory town planning. They were about to try out the new machine of which they had then only just taken delivery—Town and Country Planning Act, 1932. The discussion envisaged, as a result of that Act, a great opportunity for both bold planning on a broad national scale, and equally effective and knowledgable planning within the province of their individual local or regional areas, based on an outline national plan. That picture might have been too gaily painted. Few, however, would deny that, so far as local and regional planning was concerned, they were in a far better position now than they were then. Public opinion, and the machinery for planning, was far better organised, and this was especially true of the county areas. "The long view, based on an anticipation of Government action in the way of a survey and outline plan on a national basis has, however, proved disappointing. We have apparently yet to realise that the policy of putting the cart before the horse is an expensive one, as sooner or later the cart is bound to run away with the horse, to the latter's jeopardy. A brief examination of the wider planning problems under the heads of industry, transport, public services, residence, etc., may not be an inappropriate preliminary to the consideration of the local practical problems." The recent discussion in Parliament on the location of industry revealed, if anything, the distance we still had to go in order to get effective action taken by the Government on the lines which had been so fully discussed and were generally well understood. It was a good sign that of late there had been a tendency to discuss in official quarters at least this phase of national planning, but the views of the departmental leaders concerned were not at the moment such as to inspire a spirit of optimism. Here, therefore, was a first-class planning problem awaiting solution.

The case for a solution of some kind could scarcely be more ably put than it had been by a prominent official of the Federation of British Industries, who, in addressing the Institute in 1932, said: "It would be a most unpopular thing to suggest to a Minister that people should be paid to survey England, and guide manufacturers. Still, the factory man's mind seems to be organised for everything except the location of the factory."

Planning Public Services.

The problem of planning for transport obviously was not merely a matter of road planning. It must also embrace coastwise and inland water-borne, rail-borne, and air-borne traffic, and it might be hoped that the proposed separation of civil aviation from the Air Ministry was a step toward the co-ordination of the whole field of transport under one Minister for purposes of administration. For purposes of planning, they were again forced to the conclusion that the magnitude of the transport problem was such, and its controlling factors so diverse, that it could not be effectively dealt with except as a unit in a scheme of national planning in outline. The only national public utility services which had so far been dealt with on a national basis were electricity and radio. They had heard much, at intervals for many years, of the nationalisation of such services as water, gas and sewerage. Planners had, however, been largely ignored in the first-mentioned services, which had already achieved nationalisation, except in so far as their advice, as representing the opposition, had perforce had to be respected, or at least taken notice of. With regard to water supply, present informed opinion seemed to lean toward regional water schemes which, when completed, would be more or less closed and confined units of supply, rather than toward a nationally planned scheme of collective conservation and supply. Much the same view was held by those responsible for the administration of the country's gas services. It was doubtful, however, whether, if the country were considered as the "national estate," the same view could possibly be maintained, having regard to the limitations of present regional schemes, which had not infrequently been deliberately designed to secure private vested interest against any early possibility of nationalisation. Nevertheless, sheer necessity might yet lead us in the direction of the nationalisation of our water resources and systems of supply. It was a well-worn platitude that the safety of our future water supply was inseparably bound up with drainage, both surface and soil. Nevertheless, it was not easy to see a case for the nationalisation of soil drainage (sewerage, including sewage disposal), although here there clearly was a case for planned sewage disposal based on regional areas. Whether or not they could look forward to a national conservation and distribution of heat on the lines envisaged, on a more localised basis, by Sir Richard Paget and Dr. Oscar Faber, was a matter of rather wild conjecture, but few would doubt that their major public services would need to fill a very important rôle in any scheme of national planning.

Zoning for Residences and Factories.

In zoning for residence and its ancillaries, local planning was without guidance, owing to a failure to plan nationally for industry. Whilst death duties had in recent years enriched the National Exchequer beyond the Chancellor's wildest expectations, and whilst they were told that after 1950 the population might be on the decline, the fact was overlooked that towns and cities up and down the country were creating an unwanted building value on millions of acres of land which need never be built upon, by zoning it for residence. Any national plan for residence must obviously interlock with the plan for industry, and until both were produced, waste and frustration would be the accompaniments of delayed or misguided local planning. They had no plan for industry, no plan for transport, no plan for public services (except electricity and radio), for residence, or for open spaces. Meanwhile, they were prosecuting tremendous activity in all these fields, only to realise, all too late, that their hard-earned money had probably been largely spent in misguided directions or in the wrong places. We were now fairly well past the stage at which the champions of local planning and of *laissez-faire* were in daily conflict. The hatchet seemed to have been at least temporarily buried in favour of planning, and the most should be made of this whilst the "going was good."

Whilst nothing was to be gained by undue haste in preparing planning schemes, there was certainly something wrong when a local authority with which he was acquainted had taken the best part of 12 years to produce a draft scheme for a fast-growing area of under 30 square miles. It was already found that their procrastinating policy had ruined any possibility of successful planning owing to the laxity and incoherence of their policy of interim control over development, which should have been welded into the plan instead of being allowed to overstep the traces. Why was this sort of thing not uncommon? Must they not admit that it was because local authorities were not led, but, rather, driven in this matter of planning, and that largely without guidance. Moreover, it was to be feared that Ministerial regulations had not contributed to the realisation of more speedy results. Undoubtedly one of the contributory causes of this state of affairs had been the cumbersome nature of the procedure to be followed in the preparation of schemes. The whole idea behind the Town and Country Planning Act, analysed on a logical basis, was simplicity itself. It could well be expressed in a couple of dozen lines, but, instead, they had a perfect welter of official literature on the subject. "By the time the average chairman of a town planning committee," declared the lecturer, "has made his first attempt at digesting the provisions of the Town and Country Planning Act, 1932, the Town and Country Planning (General Transitional) Order, 1933, the Town and Country Planning Procedure Regulations, 1933, Circular No. 1305, its accompanying Memorandum, the Town and Country Planning (General Interim Development) Order, 1933, and the Model Clauses, and visualised the reactions of the opposition to these complicated documents, he is hardly to be blamed for putting them under his cushion and saying: 'This is no job for me'! In refreshing contrast is the Minister of Transport, who has packed into two small vital sub-sections of the Restriction of Ribbon Development Act, 1935, subtly chosen words which, if he and the Highway Authorities are right in their claims as to their power (and given skilled handling by competent town planners), could achieve more inside 18 months in the way of the effective treatment of these aspects of planning than the elaborate machinery of relevant sections of the existing planning legislation (designed with apparently similar objects) is likely to achieve in 18 years at the present rate of progress."

Status of the Planning Officer.

What was not realised at the Ministry of Health and elsewhere was that planning was a permanent public service. It was through their failure to recognise this fact in the past that a great many of their present local problems had arisen. An assistant appointed temporarily to the staff of the local surveyor could *never* be a town planner, even if "possessed of the highest academic qualifications." In the absence of effective town planners, we should never get effective town planning, because it would simply not work. The task of the town planner, under modern conditions of life and local government, was probably more exacting and difficult than that of any other local government officer. His difficulties were certainly not minimised so long as his position, whether consulting or resident, was such that his advice was either muffled at source, or was capable of being safely ignored or circumvented. A resident town planning officer must occupy a position in the municipal hierarchy having at least a comparable status to that enjoyed by the Medical Officer of Health. He was convinced that the larger the planning area the better on the whole would be the results. Many of the existing joint planning areas were much too small if the practical problems connected with effective administration were to be avoided. On balance, an unbiased observer would probably come to the conclusion that only by operation through the larger local authorities, or combinations of local authorities, for executive purposes, could planning be administered in anything like an equitable and efficient manner without fear or favour. It was now evident that all authorities under, say, 200,000 population could be more effectively dealt with for planing purposes either through a Joint Executive Committee, or, as in the case of some of the very small authorities, through the county council acting by a specially appointed town planning committee. In either case a qualified town planning staff would need to be at the disposal of the committee concerned.

The lecturer then discussed some detailed planning problems.

Discussion.

Mr. E. G. Allen, in proposing a vote of thanks to the author, agreed with him that too much land was reserved in most schemes for residential purposes and this might result in sporadic development. Delay in the preparation of some schemes might prove an

advantage. He had a case in mind which was delayed for 12 years, but the result had been that whereas at first no provision was made for open spaces, now, owing to the members of the Council becoming enlightened as to the objects of town planning, one-tenth of the area would be devoted to open spaces. The slackness of some local authorities in regard to State-aided houses had caused much resentment amongst builders and developers in some areas who found they were treated differently.

Mr. E. Ford (City Engineer, Coventry) considered it high time that the Government took in hand the subject of a national survey. Industry, naturally, went to localities where the right kind of labour was available. Aircraft manufacturers wanted sites at Coventry and fortunately the Corporation had sites to offer them. They had an aerodrome surrounded by 1,800 acres of Corporation land which was available. He did not think the breaking up of a department like that of the city surveyor was the right way to get co-operation. He looked forward to the time when they would get real co-operation by the appointment of an engineer responsible for all the engineering and planning and housing work, with capable assistants under him.

Lord Justice Scott said that men of various opinions were all coming to the conclusion that their planning system as it stood was not capable of being the success the nation needed, and important changes with a view to greater efficiency must be made.

Mr. E. G. Culpin, dealing with the subject of delay in the case of application of building operations, said that in regard to London people should take advantage of the opportunity offered by the County Council of going to the proper officer beforehand and finding out what was likely to secure approval.

Mr. T. Rayson referred to the control over elevations being exercised in the North Oxfordshire area, and said that the difference to be seen in that area and others where control was ineffective or non-existent, was very marked. The problem of elevations was more difficult in urban areas, where the value of sites was high, but where street frontages did exist it would be an advantage if some kind of controlling mind could supervise in the case of rebuilding. Without that, they would continue to get the mixture and jumble being seen in so many progressive towns, of which Oxford was not the least conspicuous.

Mr. J. J. Clarke touched on the question of placing of industry, and pointed out that on the Mersey-side were many derelict buildings which could be adapted to the newer kinds of industry.

Mr. G. R. S. Pepler pleaded for greater legal assistance in town planning. The whole thing should, he thought, be started from the legal department of an authority, who should draft the scheme and look on the Model Clauses as precedents only and not as compulsory clauses to be inserted.

The President urged the need for the making of a national survey. Referring to the movement of industries from one place to another, he quoted from a Board of Trade return which gave the reasons of 299 manufacturing concerns for their choice of sites. This showed that whilst 18 chose the locality owing to suitability of the labour to be had, 163 made their choice on the ground of the attractive premises to be obtained.

The motion was passed, and Mr. Thomson replied briefly.

Works Engineers and Electric Lighting.

A conference for works and office engineers and executives on electric lighting has been arranged by the E.L.M.A. Lighting Service Bureau for May 19 and 20. A full programme has been arranged, and the conference will be held at the Lighting Service Bureau, at 2, Savoy-hill, W.C.2. During the proceedings special consideration will be given to the practical application of the new electric discharge lamp. Seats may be reserved on application to Mr. W. J. Jones, manager, at that address. No charge is made for attendance.

BRITISH ARCHITECTS' CONFERENCE AT SOUTHAMPTON

PROGRAMME OF ARRANGEMENTS.

THE Annual British Architects' Conference will take place in Southampton from June 24 to 27 at the invitation of the Hampshire and Isle of Wight Architectural Association. All members and students of the R.I.B.A. and all members and students of the Architectural Association and the Allied Societies are cordially invited to attend. Ladies are particularly invited to be present. Members of the R.I.B.A. and the Allied Societies who are officials of local authorities will be cordially welcomed.

The President of the Conference will be Mr. Percy E. Thomas, O.B.E., President of the R.I.B.A., and the Vice-Presidents: The Lord Lieutenant of Hampshire (Major-General the Right Hon. Lord Mottistone, P.C., C.B., C.M.G., D.S.O.), the Mayor of Southampton (Alderman T. H. Sanders), the Principal of University College, Southampton (Mr. K. H. Vickers, M.A.), and the President of the Hampshire and Isle of Wight Architectural Association (Lieut.-Col. R. F. Gutteridge, T.D.).

HEADQUARTERS.—From June 24 to 27 the headquarters of the Conference will be at the Civic Centre, Southampton. Until June 24 all correspondence on the subject should be addressed to the Secretary, R.I.B.A., 66, Portland-place, London, W.1.

The programme is as follows:—

DAY OF ARRIVAL, WEDNESDAY, JUNE 24.

8 p.m. to 11 p.m.—An informal reception will be held in the Chantry Hall, St. Mary's-street. Members will be the guests of the Hampshire and Isle of Wight Architectural Association. Light refreshments. Music. Informal Dress.

THURSDAY, JUNE 25.

10.30 a.m.—The Conference will assemble in the Chantry Hall for the inaugural meeting, and will be welcomed by the Mayor of Southampton. The Inaugural Address will be delivered by the President of the R.I.B.A., to be followed by short addresses by (*a*) Mr. G. A. Jellicoe, A.R.I.B.A., on "The Architecture of To-morrow," and (*b*) Professor W. G. Holford, B.Arch. Liverpool, A.R.I.B.A., on "The Planning of a Great Sea-Port."

12.30 p.m.—Assemble in the Chantry Hall grounds, where the Conference photograph will be taken.

2.15 p.m.—Alternative Visits:—

Visit A.—Southampton and Docks. This tour will start with a short drive round the town, ending at Town Quay, where members will board a steamer for a two hours' cruise in Southampton Water. The ship will steam down stream past the Old Docks and will turn off Netley Castle. Tea will be served on board, and the ship will sail up past the Floating Dock and as far as the King George V Dock. Here the party will disembark and be met by representatives of the Southern Railway, who will explain the docks. The coaches will return to the Civic Centre past the "Old Walls."

Visit B.—Winchester. Motor coaches leave the Civic Centre at 2.15 p.m., and drive to Winchester via Chandlersford and Otterbourne, arriving soon after 3 p.m. Members will be shown over Winchester College and will then proceed to the Cathedral, which will be inspected. Tea will be provided in Winchester, and the party will drive back via the West Gate and Hursley.

Visit C.—Winchester. Motor coaches leave the Civic Centre at 2.15 p.m., and members will be taken over the St. Cross Hospital and afterwards proceed to the Castle and West Gate. Tea will be provided, and the return will be by way of Hursley.

Visit D.—Ordnance Survey. Members wishing to be taken round the Ordnance Survey Office should be at the Main Gates, London-road, at 2.45 p.m. This visit will last about an hour and a half.

Visit E.—Southampton Civic Centre. Members wishing to see over the Civic Centre, now in course of erection, should meet there at 2.45 p.m.

Visit F.—Southampton Air Port. Motor coaches will leave the Civic Centre at 2.30 p.m., and drive to Swaythling, where members will be taken over the aerodrome. Flights over Southampton to see the town from the air will be arranged during the afternoon, and facilities will be given to those taking part in visits D and E to make flights later on if desired.

BANQUET.

7.30 p.m. for 8 p.m.—Conference Banquet on board the Royal Mail Line s.s. *Asturias*. The guests will be received by the President of the R.I.B.A. and the President of the Hampshire and Isle of Wight Architectural Association.

FRIDAY, JUNE 26.

Alternative whole-day tours. (All coaches start from the Civic Centre, the Conference Headquarters.)

Tour No. 1. 9.45 a.m. to 5.30 p.m.—Steamship to Portsmouth and round the Isle of Wight. Members will embark from Southampton Royal Pier at 9.45 a.m., and the ship will sail down Southampton Water to Portsmouth, where H.M.S. *Victory* will be seen. After sailing round Portsmouth Harbour the ship will proceed round the Isle of Wight, through the Needles, and back to Southampton.

Tour No. 2. 9.30 a.m. to 6 p.m. By motor coach.—Motor coach to Romsey, Salisbury and the New Forest. This tour will start from the Civic Centre at 9.30 a.m., and drive up the Test Valley, stopping at Romsey, where the Abbey will be seen. Passing through the "Wallops," the coaches will drive to Park House, Amesbury, after which Stonehenge will be visited. Lunch will be taken at Salisbury, and members will have an opportunity of seeing the Cathedral. The tour will continue to Downton, with its Saxon church, and Ringwood, where tea will be provided, and will return to Southampton through the New Forest.

Tour No. 3. 9.30 a.m. to 6 p.m. By motor coach.—New Forest, Wimborne, Poole (Carter's Tile Works), Bournemouth, Lyndhurst. Coaches will leave the Civic Centre at 9.30 a.m. and drive through the New Forest to Ringwood and Wimborne, where members will be able to see the Minster. From Wimborne members will be driven to Corfe Mullen and then to Poole. Lunch will be provided at Sandbanks, overlooking Poole Harbour. After lunch the party will proceed to Messrs. Carter's tile works, over which they will be shown, and where they will be given tea. The coaches will return to Southampton through Bournemouth and Lyndhurst.

8 p.m. to 1 a.m.—Reception and dance given by the Mayor and Corporation of Southampton on the Royal Pier.

SATURDAY, JUNE 27.

Informal Visits.—Private parties to other places of interest. Members to make their own arrangements. Information will be available at the Conference office.

Special Facilities.—By courtesy of the Royal Southampton Yacht Club, members of the Conference may avail themselves of the usual privileges of that club. Members are invited to inspect the Southampton open-air baths, which have one of the largest filtration plants in the country; members will be given special facilities for bathing.

Full particulars as to costs, accommodation, etc., may be obtained on application to the Secretary of the R.I.B.A.

RATIONAL DESIGN OF STEEL BUILDING FRAMES

In connection with a paper on this subject, given by Professor J. F. Baker, M.A., D.Sc., A.M.Inst.C.E., before the Institution of Civil Engineers on Tuesday, April 21, we have received the following statement from the Institution :—

For more than thirty years the steel frame has occupied an increasingly important place in building construction. As far back as 1909 regulations were drawn up governing its use in London. These regulations contained in the London County Council (General Powers) Act, 1909, not only served as the model on which were based the Codes of Practice governing the use of steel in buildings of almost all other countries in the world, but remained in force for twenty-three years. Long before the expiration of that period the development in the manufacture of steel and the advance in the technique of steelwork made engineers feel that the regulations were unduly restrictive, and this led to the appointment of the Steel Structures Research Committee in August, 1929, having as members representatives of the Institution of Civil Engineers and of the British Steelwork Association, under the ægis of the Department of Scientific and Industrial Research

The Committee was in existence for more than six years, and in that time it considered more than 150 reports from investigators. The first and second reports of the Committee were published in 1931 and 1934 respectively. It was found at the time of the Committee's inception that the rules governing the use of steel in buildings were so unsatisfactory that it was felt desirable, in view of the considerable period which would elapse before the results of the full research programme were available, to draw up recommendations for a Code of Practice based on knowledge existing then, which would remove many restrictions.

The use of the design method based on the recommendations made by the Committee in their first report, which had been accepted practically unchanged by the London County Council and recommended to local authorities by the Ministry of Health, in addition to being embodied in the British Standard Specification No. 449, issued in April, 1932, by the British Standards Institution, has resulted in the production of safe structures. This was due, in the main, to the assumption of values for the superimposed loads which were greater than those actually applied in the structure. The main problem facing the Steel Structures Research Committee was to produce a method of design having a rational basis, taking into account that with greater knowledge there would be opportunities of making further economies in material.

Professor J. F. Baker, in his paper, gave an outline of the Committee's work, so as to assist the engineer wishing to appreciate the complete investigations before studying the details contained in the two reports already published, and in the final report to be published shortly.

Although, he said, strange as it might seem, there was no information of any value as to the real behaviour of framed structures, the contradictory assumptions made in design had drawn attention to the beam-to-stanchion connections. One of the first tasks put in hand, therefore, was a laboratory investigation of their behaviour by Professor C. Batho, of Birmingham University. At the same time, an experimental steel framework was erected at the Building Research Station at Watford, which consisted of six stanchions, the bases of which were bolted down to a concrete raft, and of twenty-one beams, all 8 in. by 4 in. by 18 lb. steel joists. The stress distribution was found by measuring the strains at a number of sections of the members, and this was done by the Maihak extensometer. "This instrument consists of a central receiver and a number of gauges, the essential part of each gauge being a 12-centimetre length of high-tensile steel wire, stretched between two knife edges which are clamped to the member under test. A small electro-magnet fixed above the gauge wire is connected to the central receiver. By pressing the morse-key in the receiver the gauge-wire is caused to vibrate and the note is heard in a pair of headphones. A standard wire, similar to the gauge-wire, is contained in the receiver, and by adjusting the tension in the standard wire until the two notes are the same, a measure of the tension in the gauge-wire is obtained from the reading of the graduated head of the micrometer adjustment."

While the work on the experimental frame was of greatest value, it was realised that different conditions might exist in actual full-scale frames, and the Committee were most fortunate in having the steel framework of the Museum of Practical Geology in South Kensington placed at its disposal by H.M. Office of Works. This enabled them to obtain access to a framework which was completed before any clothing was added. The frame of the Geological Museum was of five stories, part of it consisting of a series of galleries around a central well. Sixty-four gauges were attached at sixteen sections of the stanchions and beams. The measurements of the strain when load was applied to the framework, and the reduction of the observations were, for this particular building, in the hands of Dr. Oscar Faber, and a full report of the work had already been issued. Early in 1933, by the courtesy of Messrs. Dorman, Long and Co., access was obtained to an hotel building which was then in the early stages of construction. This enabled tests to be carried out on two parts of the frame, but as the structure was being erected under ordinary commercial conditions only a short time was available for each test. The tests on this building gave such valuable data that it was considered desirable to carry out further work on a building of a slightly different type, and the Committee were fortunate in being able to find the type of building required in an office block. Further tests were also carried out on the light steel framework of a block of residential flats, when the observations were confined to the beams.

A true assessment of the dependability of the observations was a matter of the first importance in work of this kind, where the actual behaviour of a structure was being determined. Great attention was accordingly paid to this. The three buildings tested behaved normally under load, in that appreciable restraining moments were developed at the ends of the beams, with corresponding bending moments in the stanchion-lengths. It was found that the method of stress-analysis developed could be made to give a reliable estimate of the stresses in a frame even when it was clothed. Information was obtained concerning the behaviour of bare and cased connections, the partition of moment between stanchion lengths, the effect of floors and of stanchion-casing and walls, etc. At the same time a detailed investigation of the behaviour of typical beam-to-stanchion connections was made in the Civil Engineering Laboratory of Birmingham University by Professor C. Batho.

The more important points brought out by the experimental investigations could be summarised as follows :—

(*a*) Standard types of riveted and bolted beam-to-stanchion connections are capable of transmitting large bending moments, with the result that appreciable restraining moments are developed at the ends of a loaded beam in a steel-framed building. The connections themselves may be treated as units, and the relatively large stresses developed in them by the moments are not a source of danger.

(*b*) Although there was some variation due to workmanship in the behaviour of connections made to the same design, it was possible to set out a lower-limit curve for each type of connection, enabling a safe estimate of the restraining moment to be made.

(*c*) The moment transmitted through a connection from a loaded beam develops bending moments in the stanchion which are many times greater than those taken into account to-day.

(*d*) The bending moments developed in a stanchion due to load applied to a beam are appreciable, not only in the stanchion-lengths to which the beam is attached but also in those more remote.

(*e*) The ratio of maximum bending moments in the stanchion-lengths above and below a loaded beam can be very different from that of the stiffnesses of the stanchion-lengths.

(*f*) The addition of floors, walls and stanchion-casing to a frame does not bring about any fundamental change in the behaviour of the frame.

(*g*) Concrete casing can increase the rigidity of connections appreciably in the working range.

(*h*) The presence of clothing decreases the maximum stresses in the steel beams of a frame, but it may increase the bending stresses in the steel cores of the stanchions.

(*i*) The methods of stress-analysis developed could be depended upon to give a true picture of the distribution of stress in the steelwork of a frame even when it was clothed.

The Steel Structures Research Committee had endeavoured to produce a method of design which, while simple enough to be applied in ordinary practice, was based on an accurate estimate of conditions in the structure. The Committee's object would not have been attained if the final method for proportioning a stanchion, however sound its basis, was too complex to be used conveniently in the design office. A number of practising engineers were good enough to give the First Simplified Method worked out a trial in their offices. They were, however, of the opinion that while designers had no difficulty in applying the method, the time taken in proportioning a stanchion was prohibitive. To produce a method acceptable to the designer, further simplification was necessary. It was fortunately found possible, without any serious sacrifice of economy, to prepare one set of curves giving the permissible end bending stress which would ensure safety, whether bending was in "single" or "double" curvature.

There was no doubt that the investigations had added much to the store of knowledge of the behaviour of steel structures. Means were now available for basing the design of a steel building-frame on the true behaviour of the structure under the loads which it was its function to sustain. The method put into the hands of the designer a powerful weapon enabling him to attack any problem with a confidence which he could not have when using existing methods.

OBITUARY

Alfred E. Wright.

We have regretfully to announce the death on April 4 of Mr. Alfred Ernest Wright, late joint managing director of the firm of Messrs. Samuel Wright and Co., Ltd. Mr. Wright was 62.

F. A. Beck.

We regret to record the death of Mr. F. A. Beck, the senior travelling representative of Messrs. Wm. Harland and Son, paint manufacturers, of Merton. Mr. Beck entered into the service of this firm in September, 1899, and was known almost throughout the country, particularly in the Midlands, North-west of England and in London.

THE INSTITUTE OF BUILDERS

THE ANNUAL DINNER.

Mr. S. P. Purkiss-Ginn, President, was in the chair at the annual dinner of the Institute of Builders, held in Carpenters' Hall, E.C., on Tuesday night.

Among those invited were Sir Kingsley Wood (Minister of Health), Col. Sir Geoffrey Church, Sir Raymond Unwin, Dr. Oscar Faber, Messrs. Percy Thomas, P.R.I.B.A., B. C. Aldous, R. Angell, S. Beverley, E. Burt, G. M. Burt, A. N. Dove, W. W. Dove, A. B. Falkner, F. N. Falkner, W. H. Forsdike, J. Hutton Freeman (Master, Carpenters' Company), L. M. Gotch, L. U. Grace, E. Stanley Hall, S. H. Hamp, C. F. Hollowell, T. Howarth, H. Neal, G. H. Parker, R. L. Roberts, J. H. Rooff, L. Shingleton, F. W. Stratton, J. M. Theobald, C. C. Trollope, R. H. Uren, F. A. Wallis, P. J. Westwood, G. E. Withers, and P. J. Spencer (secretary).

Sir Kingsley Wood, M.P., the Minister of Health, who gave the toast of "The Institute," said that that body had had a long and honourable history. Founded in 1834, it had lived to play its part in a veritable revolution in building operations in this country. New building materials, new building methods and, not least, new building standards, had all come into use at a steadily increasing rate during the past century. That progress had been even more marked since the War. He paid a tribute to all the work that the private builder had done. "He has certainly deserved well of the country in the contribution he has already made to the better housing of the people," added the speaker.

Of the 2,900,000 houses built in England and Wales since the Armistice, he proceeded, nearly 2,000,000 had been provided by private enterprise. It was, he believed, a record without parallel. More than three-quarters of those 2,000,000 houses had been built without any public subsidy.

It was often said that the efforts of private enterprise had been devoted simply to providing large buildings. Beginning with comparatively large houses, private enterprise had, with the invaluable help of the building societies, turned to houses for the middle-class, black-coated workers, and now anyone able to buy a house on easy conditions of repayment could obtain one built by private enterprise. In the year ended September last over 275,000 houses were built by unassisted private enterprise and, to meet the criticism to which he had just referred, he pointed out that only 12 per cent. of those houses had a larger rateable value than £26, or £35 in Greater London. No fewer than 102,000 of them had a rateable value not exceeding £13, or £20 in Greater London. That was a really remarkable contribution to the better housing conditions of our time.

Houses to Let.

It was also said that private enterprise did little or nothing so far as providing houses to let was concerned. He was glad to think, however, that one of the signs of the times in housing was the number of firms which were building houses to let within the means of the better-paid members of the working-classes. Last year over 34,000 houses were built in that particular category. He had heard many prophecies of a slump in house building, but he believed that there was every prospect of steady building and continued employment. But progress in that direction depended on two things: Cheap money and reasonable prices. Those were vital factors in the provision of houses, without assistance, for both sale and letting. They would all recall the disastrous results which attended the early attempts in the direction of housing after the War, and he was certain that the Institute would agree that the price of the product was the main determining factor in housing schemes to-day. Everyone who studied social conditions would also agree that houses to let suitable for the lower-paid workers were a real need. "I would like to see private enterprise going down the building scale as low as possible," added the Minister, "and I believe that one of the hopeful factors in this connection is that the largest contractors in the country as well as the small builders are now engaged in the construction of houses and flats."

The Institute and Building Education.

Turning to the Institute, the speaker said that it had done much in the technical education of the builder. The development of modern construction called for the best brains and the highest knowledge and skill in the industry—and also in the associated professions of architecture and engineering. The country wanted houses of good design and quality, that would not be an eyesore to any district.

The President, in responding, said that if he interpreted Sir Kingsley Wood's message correctly the Minister was concerned for the quality and character of public building work, particularly housing schemes, and he was inviting builders—as they understood that term—to enter more generally into that field of enterprise. "If such an invitation could come with the assurance that we could accept it with satisfaction as citizens, with credit to our qualifications and with a reasonable return for honest effort, it would indeed be welcome," said the speaker. "It is surely a serious matter for a Minister of Health to raise the question of quality and standard at a gathering like this," he proceeded, "and if it is justified—and a good many of us think it is—what is the answer? This is a gathering representative of the best in architecture, surveying and building, and I venture to suggest that the reply to those questions is that whilst good design is necessary, good building is absolutely essential for an A1 nation. I doubt very much whether the term 'good building' could be applied to many public and private housing schemes and work generally to-day, and this is surely due to this costly craze for cheapness in its worst form.

"I realise only too well that Government Departments and local authorities are the guardians of the public purse, but it is slightly ironical that, having set in motion the design of a housing scheme or public building by a qualified architect, and having instructed a qualified quantity surveyor to prepare the quantities, when the question arises as to who shall construct the work, qualifications fly out of the window and price only is entertained."

The quality of a building should be an example and not a warning, and where local conditions required certain architectural treatment and certain materials, that was a consideration to which cost should be secondary. He would go further and say that where an applicant to tender lacked the reputation and standing necessary to the due execution of the job, it was neither desirable nor fair that he should be allowed to compete. First cousin to the evil of open competition for public building was the recourse to a similar situation in competitive tenders for industrial, commercial and private buildings. All too frequently was a qualified builder invited to tender in competition with others unqualified or of a very different standing.

"The effect of these conditions," declared the President, "is steadily driving out of existence the qualified craftsman and builder in an age which is notable for ugly buildings. What is the remedy? The Institute believes that its job is to establish an acceptable and recognised qualification for builders. It aims to fulfil its purpose by educational methods and education tests for those entering the industry and by strict measurement to its standards of older men already in practice. I have the temerity to suggest that this could and should be accelerated by all sections of the industry co-operating and settling their differences. The professional bodies should establish a Joint Board, with an adequate representation of the building public, for the purpose of certifying and grading the qualifications of those who execute building. If that were done, the industry would be more in a position to guarantee a high class of workmanship and fair dealing, and, what is of great importance, to guarantee that the public shall not be exploited."

Mr. W. H. Forsdike submitted "The Guests," and Rear-Admiral Sir Murray Sueter, C.B., M.P., responded.

PLASTIC MATERIALS EXHIBITION

An exhibition at the Building Centre, 158, New Bond-street, W., in which nearly all the manufacturers of plastic articles are taking part, has been organised at the special request of the Westminster Hospital Building Committee, who were anxious to be provided with an opportunity of seeing how far they could make use of plastics in the new nurses' home and hospital, particularly in connection with the colour schemes which they are contemplating, and more especially in the nurses' home, where they are hoping to introduce many novel features. At the exhibition, articles are shown which are of interest to all engaged either in the architectural profession or in the building trades.

The bases of plastics are synthetic compounds, produced originally in the chemical laboratory, whence they have extended into manufacturing channels in which the original product of the test tube is mechanised into mass production, which allows of the finished moulded article being purchased at commercial prices. These mouldings, which are lighter than metal, impervious to corrosion and rusting, pleasing in colour and non-fragile, were at the outset imitations or substitutes for other materials which were in general use, but they have far outgrown the imitation stage, and to-day they are finding their own uses, since they possess characteristics peculiar to themselves.

Lavatory fittings, towel rails, soap containers and dishes, lampshades, door knobs and handles, finger-plates, table-tops, electric light fittings, vacuum cleaners and sink draining boards in all colours and shades are displayed, along with examples of wall coverings in laminated sheet, with highly polished surfaces and finishes, ranging from black to tapestry, and a multiplicity of other articles.

Materials have to-day been evolved which can be cleaned hygienically by a damp cloth, and the exhibits at this exhibition, which is open free to the public on weekdays from 10 a.m. to 6 p.m. (Saturdays 1 p.m.) till May 16, are of general interest.

MINIMUM SPECIFICATION FOR DRAINAGE WORK

A strong committee of the Institute of Plumbers, comprising well-known master plumbers from Sunderland, Leeds, Manchester, Stockport and London, has for some time been engaged in preparing minimum specifications of plumbing works, that in front of us being No. III.* In the preface it is stated that "the aim of the specifications is to lay down a minimum of sound practice and to provide codes to which reference may readily be made by all concerned in planning, administering and executing sanitary and plumbing work. They represent an attempt to reconcile local variations and to consolidate the best practice."

The qualification "minimum" might ordinarily be regarded as disarming criticism, and as a warning to the would-be student and practitioner not to expect too much. But so important from the public health point of view is the work of the plumber and sanitary engineer that the preparation of a minimum code of sound practice must necessarily involve a great amount of labour, and the results take up much space. Such a code is much needed, and that an effort to supply it should be made is to be welcomed and encouraged.

* "Minimum Specification for Drainage Work." Published by the Institute of Plumbers. Price 2s. net.

INQUIRY BUREAU

QUESTION.

Coloured Mortars for Pointing Brickwork.

SIR,—What has been the experience of your architect readers regarding the use of coloured mortars for pointing brickwork? What tint do they recommend for multi-coloured facing bricks, and how best is it obtained?

SUSSEX.

ANSWERS.

Apprentices and Unemployment Insurance.

[ANSWERS TO "ASCOT," APRIL 24.]

SIR,—Unemployment contributions have to be paid in respect of indentured apprentices, and although the injustice of this has been put forward, exemptions have never been granted. The probable view of the Ministry of Labour is that the apprenticeship could be broken by the bankruptcy of the employer, in which case the apprentice would be unemployed, and the fact that regular employment is certain for the term of the aprenticeship only. The building trades are insurable against unemployment, and no distinction is drawn between those manually engaged in it.

W. E. W.

SIR,—I think there must be some mistake in the ruling which your correspondent quotes. My impression is that an indentured apprentice need not be insured against unemployment, but that if he is not so insured he is ineligible also for National Health Insurance. I have known cases where this ruling has been agreed and should presume that it would be upheld.

EMPLOYER.

Soundproofing a Party Wall.

[ANSWER TO G. W. F., APRIL 24.]

SIR,—In a ready-built house which may be presumed to be the case in this instance, the perfect soundproofing of the party wall is almost impossible, especially if there are structural members of each house bearing into it. The battening out of the wall to form a cavity which should be filled with slag wool, not too tightly packed, is likely to improve conditions provided the battening is independently framed and not fixed to the back wall. The insulating of the bearings of this framing upon the floor with rubber pads will also add to the efficiency of this arrangement.

INSULATION.

Flat Roofs.

[ANSWER TO "FLAT," APRIL 17.]

SIR,—The insulating properties of the flat roof may be improved by changing the dark colour of the top surface to a lighter colour. The most effective way of doing this is to cover the top with a light colour shingle, the reflection from which will make a material difference to the amount of heat transferred.

SURFACE.

Down-draught Trouble.

[ANSWERS TO "SMOKE," APRIL 24.]

SIR,—It is worse than useless to fix a cowl when the deficient draught is due to pressure. If a cowl (or different form of chimney pot) is used, the design must be such that the airflow is not impeded when the chimney is working normally. The remedy suggested of fixing a field pipe would probably be successful; the inlet to this pipe should be larger than the outlet, and the inlet should face the wind when blowing from the quarter which causes smoking. It has also been found that a curved trumpet-shaped tube placed with the small ends entering the chimney in an upward direction increases the draft when the wind is blowing direct into the openings.

To deal with the trouble in one of these two ways seems the only possible manner; the down-draught being from the hills, to increase the height of the chimney would have little or no effect, while changing the type of chimney pot might aggravate the trouble. It appears that the draught is only insufficient when the wind is in certain directions, under these conditions an increase of draught is needed, which would be provided by the field pipe as suggested.

W. E. W.

SIR,—It is almost impossible to get a certain remedy for down-draught trouble, since no two sets of conditions are alike nor are the conditions of any single case throughout all seasons stable. A revolving cowl is generally the most fruitful remedy against a varied number of conditions, but it is possible by experimenting with the measures your correspondent suggests that a remedy may be found suitable for this particular case, and if found, will certainly be less unsightly than the use of a cowl.

CHIMNEY.

Roof Tiles.

[ANSWER TO "TILE," APRIL 17.]

SIR,—On the leeward side of a roof there is a considerable suction when there is a strong wind to the windward. Under some conditions this suction tends to lift the tiles from their supports, causing loosening, and leading, perhaps, to their blowing off. The wind does not always come from one quarter, especially in gusty weather, and loosened tiles easily blow off.

W. E. W.

Plaster Skimming on Internal Cement Rendering.

[ANSWER TO "CHARTERED SURVEYOR," FEBRUARY 7.]

SIR,—The conditions now existing present a difficult problem to overcome, since the undercoat is the protection against damp, and any treatment other than one of a surface description is likely to damage its damp-resisting qualities. The application of a coat of bitumen mastic would certainly not be successful, as there would be a tendency to creep between the two coats. Probably the only successful measure to adopt will be to thoroughly hack the cement rendering for a key and then apply a further rendering of waterproofed cement with a rough surface to which the final skimming can be safely applied. If the latter is finished with a carpet float, this will further discourage condensation.

PLASTER.

WEEK IN PARLIAMENT

Overcrowding Survey.

SIR G. MITCHESON asked the Minister of Health if he could now furnish an estimate of the number of persons living in overcrowded conditions, as defined by the Housing Act, 1935; and also how many houses would be needed for the purpose of eliminating overcrowding.

MR. SHAKESPEARE said that local authorities were required to submit the results of their surveys by June 1, and the Minister of Health would not, therefore, be in a position to give figures for the whole country until some time after that date. Up to April 18 his right hon. friend had received reports from 278 local authorities covering 1,937,002 houses, of which 97,093 were overcrowded.

Housing Statistics.

MR. DAY asked the Minister of Health whether he had any statistics that would show the number of houses or flats, occupied or unoccupied, in England and Wales at the last convenient date.

SIR K. WOOD said that the latest available figures were those of the 1931 census, viz. :—

ENGLAND AND WALES, CENSUS 1931.	
Total dwellings occupied ...	9,123,279
Dwellings wholly vacant :—	
Furnished	115,096
Other	161,160
Total dwellings occupied and vacant	9,399,535

Charing Cross Bridge.

MR. DAY asked the Minister of Transport whether he was now able to make a statement with reference to the construction of the proposed new Charing Cross bridge.

MR. HORE-BELISHA said that the Committee dealing with this matter had, he understood, now completed their investigations and were about to consider their report.

PUBLIC HEALTH ACTS AMENDMENT

EFFECTS ON BUILDING.

A LETTER to *The Times* from Mr. Howard Robertson (chairman, Special Committee for Public Relations, Building Industries National Council) draws further attention to the need in any amendment or consolidation measure for considering the special claims of the building industry. "The proposals for the consolidation of the Public Health Act," states the letter, "emanate from a committee who have produced a most excellent report, though they call for amendment in certain directions. The detailed observations of my council on the draft Bill have been communicated to Lord Addington's Committee, but it is to be regretted that they did not consult the organised building industry at an earlier stage, as, of all the industrial interests, that most vitally affected by public health enactments is the building industry. Had they done so they would have ascertained that mere consolidation was not regarded by that industry as the best method of enlightened reform, but that the inclusion in a separate codifying Bill of all the clauses dealing with buildings and building development in public health legislation is the most desirable and practical way of reaching the ends to which the committee's amendments were directed.

"What, for example, would be the effect on medicine if, before a practitioner undertook some quite ordinary professional act, he had to obtain the approval of a number of authorities with all the attendant possibilities of delay? Yet the architect, a practitioner of similar professional status, must, before proceeding, obtain the consent of one or more, or perhaps all, of the following 'authorities': The local public health committee, the building plans committee, the district surveyor, the county surveyor, the fire committee, the town-planning committee (or consultant), the watch committee, the water committee (or company), the lighting committee (or company), the chief constable (under the Ribbon Development Act), the public control (licensing) committee, and in so doing must satisfy the idiosyncrasies of the separate and independent administrations involved, who may function under as many as six or seven different Acts. If the general medical practitioner had to work under conditions even remotely similar, there would be grave risk in many cases that his patient would die. In effect, this is what happens in so many cases to the unfortunate building project; the complications which set in are too much for the owner, and the scheme is eventually buried.

"The line of legal administrative reform in this country must clearly be directed towards codification and simplification. There is no stronger case calling for the application of those processes than that with respect to the multiplicity of enactments controlling building operations. An industry upon which nearly 3,000,000 of the male insured population directly and indirectly depend must not, in the economic interests of the country, be hampered by confusing legislative requirements, but must be kept free from the diversities of separate administrative machines and restricted departmental and local interests.

"In these circumstances, it is to be hoped that when the present Bill comes before them Parliament will take, as you suggest, the constructive course of approving, with any necessary amendments, the present proposals for consolidation, but at the same time enter the strongest possible caveat that the next step to take in this important sphere of reform should be the simplification and codification of all building legislative requirements in one Act."

Royal Society of British Sculptors.

Mr. Eric John Doudney and Mr. Massey Rhind, R.S.A., have been elected Associate members of this Society.

THE BUILDING TRADE

BUILDING LAWS AND REGULATIONS—XVIII

By B. PRICE DAVIES, F.S.I., M.T.P.I.

(Author of "Estimating for Buildings and Public Works")

BUILDINGS OF PUBLIC RESORT.

PART IV (*Continued*).

INTERNAL PLANNING (*Continued*).

Stairways and Ramps.

HERE again the safety of the public has been carefully studied and dealt with in the Manual.

The writer is much opposed to a single step in a domestic building, but in a public building the danger is increased manifold.

Centre handrails, plainly visible and emphasised at terminations are necessary for widths of stairways and ramps which are greater than about 8 ft. 6 in. Landings before doors are very necessary.

The following clauses are quoted :—

"31. *In new buildings stairways shall be without winders.*

32. *No flight shall have more than* 16 *or less than three risers.*

33. *In new buildings where more than* 16 *risers are necessary* (*i.e., about* 9 *ft.* 6 *in. of rise*) *intermediate landings at least* 4 *ft. long, measured in the direction of travel, shall be provided.*

34. *In new buildings, when a door is at the head of one or more steps or stairs, a landing at least* 2 *ft. longer than the folds of the door when open shall be provided as clearance space between the door and the succeeding steps.*

In existing buildings a landing at least as long as the folds of the door shall be provided.

35. *There shall not be more than two successive flights without a turn.*

36. *Treads shall not be less than* 10½ *in. wide and risers not more than* 7 *in. high in existing buildings. In new buildings treads shall not be less than* 11 *in. wide and risers not more than* 6½ *in. high.*

37. *Where lighting conditions render it desirable, the edges of treads shall be made conspicuous by painting or other means.*

38. *In buildings regularly used—*

(*a*) *A continuous handrail shall be fitted on each side of stairways or of ramps of a slope exceeding* 1 *in* 10 *in such a manner as not to project more than* 3½ *in. over the stairway or ramp. Such handrails shall be* 2 *ft.* 9 *in. above the stair, landing or ramp. If the stairway or ramp is more than* 8 *ft.* 6 *in. wide a central handrail shall also be fitted.*

(*b*) *Where the central handrail cannot conveniently be carried across a landing, the upright supporting the handrail of the lower flight shall be carried to the ceiling or to a height of not less than* 7 *ft.*

(*c*) *Where stairways join at an angle, or change direction, the handrails shall be so arranged as to direct the flow of traffic and defend corners without reducing the width below that required by this Manual.*

39. (*a*) *Corridors, passages, stairways and ramps shall at all times be maintained clear of obstruction.*

(*b*) *There shall be no projections in any corridor, passage, stairway or ramp, other than handrails at stairs or inclines, at a lower level than* 6 *ft.* 9 *in. above the floor or* 7 *ft. above any stair.*

(*c*) *Pay-boxes and check-boxes shall be fixed in such a way as not to obstruct corridors, passages, stairways or ramps.*

(*d*) *Provision for hanging coats, etc., shall not be made in corridors, passages, stairways or ramps.*

(*e*) *Where advertising boards or easels are placed in a vestibule, lobby, crush-hall or similar space, they shall be railed off from areas traversed by the public or properly secured so as not to affect egress.*

(*f*) *All recesses and internal angles shall be suitably defended in such a way as not to reduce the effective width of the corridor, passage or stairway.*

Use of Steps and Ramps in Gangways.

40. (*a*) *In new buildings steps shall not be used to overcome differences in level in a gangway unless the slope of such gangway exceeds* 1 *in* 10.

(*b*) *Where steps of a pitch exceeding* 30 *degrees or ramps of a slope exceeding* 1 *in* 10 *are provided in gangways flanking the seating suitable handrails shall be provided.*

(*c*) *Where such a gangway intersecting the seating is more than* 8 *ft.* 6 *in. in width, a central handrail shall be provided.*

(*d*) *The treads of steps in gangways shall be rendered and maintained in a non-slippery condition, and the edges of such steps shall be made conspicuous by painting or other means.*

(*e*) *Requirements* 40 (*b*) *and* 40 (*c*) *shall not apply to premises occasionally used.*

41. *Guard rails not less than* 3 *ft.* 6 *in. above floor level shall be provided on the resters at the foot of gangways in circles and galleries or areas where the incline of the gangway exceeds* 15 *degrees. The resters themselves shall be not less than* 2 *ft.* 6 *in. in height from floor level.*

42. *The slope of tiers shall not exceed* 35 *degrees. In new buildings such slope shall not exceed* 30 *degrees.*

Steps in Corridors and Passageways.

The danger of a single step is often not realised. Movement of persons up or down a group of not less than three steps will be so obvious to those following that they will be prepared for the descent, but movement down one step is not so readily observed and may easily lead to falls.

43. (*a*) *In new buildings steps shall not be employed to overcome differences of level in corridors and passages unless the provision of inclines or ramps of a gradient not exceeding* 1 *in* 10 *is impracticable; single steps shall not be employed and not less than three risers shall be employed at any one point.*

(*b*) *All corridors and passages shall be level for a distance of five feet in each direction from any steps.*

(*c*) *Where steps or ramps are employed the provisions of Requirements* 30 *to* 36, *Condition* 37 *and Requirement* 38 *shall be complied with.*"

It will be observed that the amount of useful practical information in the above quotation is very great.

Sections 44 and 45 deal with outside stairways and ramps.

Doors, Gates and Shutters.

The arrangement of doors is one of great importance, and the safe general rule is that the doors must *open away* from a departing audience. This, again, must not be done so that the door of one gangway interferes with the traffic flow of another gangway.

The bolting of doors, other than by panic bolts which will yield to pressure, is a menace to rapid exit, and is not to be allowed.

The doors are to be hung, and sliding doors are not allowed for exit-ways.

Clause 46 (with illustrations) deals with this important matter.

Spring-operated Friction Buttons.

The use of these buttons for doors is allowed if they permit easy opening of doors, and if they do not keep the doors open. This latter point is important to prevent increase of draught for a fire, and to retard smoke. Clause 47 gives the required regulation.

Watch and Ward Doors, Collapsible Gates, Roller Shutters, etc.

The requirement recommended for these fittings is for the outer range of exits, such as gates to courtyards, and are those which open against the direction of exit. Sliding gates and roller shutters are in this category.

When the building is used, these doors, gates, etc., are to be kept open, and secured by locks or other means, so that they cannot be interfered with. Clause 48 gives the wording recommended.

For Revolving Doors, Turnstiles, Smoke-stop Doors, and Fire-resisting Doors, Clauses 50 to 53 are quoted, as follows :—

"50. *Revolving doors shall not be allowed to count in the calculations of exit width.*

51. *Turnstiles, if installed, shall be arranged clear of the line of exit, and shall not be included in the calculation of exit width.*

52. *Smoke-stop doors shall be well made, not less than one half of an inch in thickness at any point, self-closing by means of springs or other devices and without spring-operated friction buttons or other means enabling them to be fixed in the open position. They shall close on to a fillet not less than one half of an inch in depth, or, if arranged to swing both ways, shall be maintained in such a condition as to make a reasonably smoke-tight joint. If glazed, fire-resisting glazing shall be employed.*

53. (*a*) *Fire-resisting doors shall be of metal-clad wood, iron or steel plate, composite or roller-shutter type.*

(*b*) *They shall be of such construction as to resist the passage of fire for a period of not less than* 30 *minutes.*

(*c*) *Fire-resisting doors of the swinging or sliding type shall overlap the wall at the top and sides for at least four inches; provided that where such doors are of the swinging type they may be arranged to close into a rebate five-eighths of an inch deep around the opening.*"

Floor Coverings, Hangings and Rope Barriers.

A person falling over a carpet or curtain during a fire is sufficient to cause a jam in a fire panic and the consequent loss of life.

Some materials are also highly inflammable, and their use is fraught with danger. Artificial silk is stated to be prohibitive for use in curtains and hangings.

Clauses 54 to 56 deal with requirements associated with such matters.

PART V.

PROSCENIUM WALL, FIRE-RESISTING CURTAIN AND DRENCHER OVER CURTAIN, ROOF VENTS, SPRINKLERS AND VALANCES.

With the use of stage and scenery, the risk of fire is greater on the stage than in the auditorium. The fireproof separation of stage and auditorium is therefore important. This is brought about by means of a fireproof wall to the proscenium and the provision of a fireproof curtain for the proscenium opening.

Proscenium Wall.

The greater the seating capacity of the auditorium the greater the risk of panic and loss of life in case of fire, and the requirements provide for this.

Fire-Resisting Curtain and Drenchers over Curtain.

Fire-resisting curtains are in two classes—Rigid and Non-rigid. They should effectually close the proscenium opening, and efficient roof vents over the stage assist in confining the fire and smoke to the stage end of the building.

The recommendations for these precautions are numerous (Requirements Nos. 58 to 70 and 73), and are accompanied with good explanatory diagrams.

Stage Roof Vents.

The stifling effect of smoke is a very real danger apart from the risk of burning, and well-designed roof vents over the stage help to draw the smoke away from the auditorium.

Requirement 71, with three diagrams, explains what is required in this direction.

Sprinklers.

The following is quoted :—

"72. *In new buildings seating over 400 persons in which a stage is provided and scenery is employed (unless the building is so used occasionally and exceptionally only and on not more than twelve days in any one year), sprinklers shall be provided for the whole of the stage risk including scene dock, workshop, basement, dressing-rooms, property store and band-room. If the grid is of incombustible material the sprinklers shall be below the grid; otherwise they must be provided both above and below the grid.*

If adequate pressure and volume of water are not available, a pressure tank, gravity tank or booster pump shall be provided.

(Note.—Large stages will require the whole of the supply from a 6-in. main under not less than 50 lb. pressure; smaller stages may be served by a 4-in. main under similar pressure.)"

Specifications for asbestos fabric, and woollen materials for use in Safety Curtains, are given in this Part of the Manual.

ROADS IMPROVEMENT

Two publications just issued draw attention to special factors which should be taken into account in the creation and control of new roads.

Roads Improvement Association.

The forty-ninth annual report of the Roads Improvement Association, Inc., refers to "the inadequacy of our existing road system," and questions whether the substantial relief expected from the Government's statement that £100 millions were to be spent upon road improvements during the five years from 1935-36 will, in fact, be realised. "To-day," states the report, "thousands of miles of roads await simple safety improvements, such as the elimination of dangerous corners, the opening out of blind bends and junctions, the provision of a single footpath, adequate lighting, etc., to make traffic flow reasonably safe. To enable present-day traffic to circulate at economic speeds with freedom and safety, hundreds of miles of important roads urgently need widening, straightening and strengthening, while the number of weak bridges scheduled for reconstruction, and therefore admitted to require it, runs into four figures. It has been semi-officially stated on two or three occasions that the value of the improvement schemes submitted by local authorities for inclusion in the five-year road programme totalled, in March, 1936, over £130 millions, 'all of which,' it has also been semi-officially stated, 'it is hoped will be carried out during the five-year period.' Schemes have been defined; plans and details can be made ready quite quickly; the Minister of Transport and his staff are enthusiastic and anxious for progress; everything now depends on whether the necessary finance will be made available so that the works can proceed. This is the vital factor. . . . In view of the national and inter-county character of practically all the traffic now using the classified roads, the Association holds the view that the time has arrived when the total cost of the maintenance and future development of these roads should be borne by a specially constituted central authority. This would have the effect of placing the Ministry of Transport in control and primarily responsible for the adequacy and efficiency of our classified roads and, at the same time, retain the valuable local inherited interest in all roads by the local authorities."

A memorandum has been submitted by the Association to Sir Charles H. Bressey, C.B., F.S.I., setting out some factors to be considered in the creation of a Highway Development Plan for Greater London.

After examining the matter, the memorandum states: "The Association submits, therefore, that the main principle of a Highway Development Plan for Greater London should be the construction of concentric ring roads, not necessarily of mathematically circular form, at appropriate intervals. Central London would be the natural centre of the rings which would facilitate traffic circulation with a minimum of traffic crossings, hold-ups and congestion. To-day London requires three such concentric ring arteries. Here and there direct entry into the 'hub' from outside may be provided by bridge crossings. The spokes of the ring are amply provided by the existing network of small service roads, and no doubt the connections between the spokes and the ring must be the subject for local study to suit local needs."

British Road Federation, Ltd.

The second publication referred to is a statement of policy by this Federation. The first part is occupied by a consideration of road costs and vehicle taxation, where it is stated that "The cost of the construction and maintenance of the road system should be defrayed by all road users and by other parties benefiting financially from the construction or improvement of the roads. The present method of financing the road system, mainly by a levy upon ratepayers, is inequitable." Under "the Road System" the Statement proposes that, in order to ensure efficiency and economy, the construction, maintenance, signalling and lighting of the road system should be controlled entirely by a Central Highways Board for Great Britain, and, furthermore, powers to ensure safety and to avoid congestion should also be vested in the Central Board. "This," it is claimed, "would put an end to the present unsatisfactory position whereby between 1,300 and 1,400 local authorities are responsible for the roads. The Central Highways Board, in any case, should take over all bridges and toll bridges, and deal with the elimination of level crossings upon terms to be agreed by that authority and the interest concerned."

Discussing the question of cost, the Statement adds: "The Central Highways Board, if it is to take over all roads and also to be responsible for street lighting, must have an income of at least £57,250,000, and this could be found by paying in the whole of the receipts from the Road Fund, which in 1935-36 are estimated at £26,500,000, and making up the balance from that part of the petrol and oil tax paid by users of motor vehicles, which is estimated at £40,780,000 in the current year."

NATIONAL FEDERATION OF HOUSE BUILDERS

MR. FRANK WILLIAMS, President, in his address to the annual conference of the National Federation of House Builders, held in Leicester, said that private enterprise could and would build all the houses required for all classes, except the very poor, and the poor should be housed in the existing council houses. The Federation had given the Government an undertaking that if they removed the subsidy from local authorities under the 1924 Act they would build houses in large numbers. Records for the past three years showed very clearly that that undertaking had been carried out. In 1933, without State assistance, approximately 168,000 houses were built by private enterprise; in 1934 the number was 207,000, and in 1935 it was 286,000. The 1935 figure represented 5,500 houses a week.

"I am sure the time has arrived," the President continued, "for another undertaking to be given to the new Minister of Health, and it should be this:

"'Private enterprise will build all houses required without cost to the State for general housing, slum clearance, and overcrowding, where the income into the house is over £3 per week, if the Government will clear all the tenants out of the present Council houses who have an income of more than £3, and house the poor in their place.'" If no more houses were built for general housing by local authorities, and people with an income of £3 and over were not allowed to live in a Council house, he was sure private enterprise would give that undertaking.

RESIDENTIAL SCHEME AT SEAFORD

A BEGINNING has now been made on a residential project on the Sussex coast, adjoining Seaford. It is being laid out on the slopes of the ancient Manor of Chyngton, overlooking the Cuckmere Valley and Cuckmere Haven. The proprietary company is Seaford Downs Estate, Ltd., which has acquired some 884 acres for this purpose. The layout and architectural scheme are in the hands of a panel of architects, headed by Mr. W. R. Davidge, F.R.I.B.A., and including Mr. H. Duncan Hendry, F.R.I.B.A. We are informed that the promoters are determined that the scheme shall be in keeping with its downland setting, both as regards the architecture of individual houses and buildings and the general layout. All houses will be detached, each having its own large garden. Plans provide for a maximum of six houses to the acre. Prices will range from £2,000 to £5,000.

It is estimated that the whole scheme will involve a capital outlay of £8,000,000. The plans provide for some 2,250 houses, and it is anticipated that a new population of more than 10,000 will eventually be added to the district.

BUILDERS AT GOLF

THE spring meeting of the Building and Allied Trades' Golfing Association was held in perfect weather at Wentworth on Tuesday last, with a record attendance of 140 and the courses playing in perfect condition. Play was extremely keen and enjoyable, and some good cards were returned. The scratch prize was taken by F. Lawrence with a return of 77. The senior division men's handicap resulted in a tie between G. Lawrence and P. Bullock with 69 net each, the former winning on the better score over the last nine holes. The junior division prize was taken by W. Henderson with 74 net. E. Emmerson (75) was second.

The first prize for the four-ball foursomes against bogey was won by Messrs. Mabey and Land with the very good score of 8 up, Messrs. Bates and Coningbeare being second with 5 up, after a tie with Messrs. C. J. Mead and Bullock.

The following 20 members qualified for the final of the Dyke Cup (to be played at Moor Park): G. G. Bullock, J. W. Wilson, J. E. Billings, — Matthew, — Buckley, V. A. Roe, F. Warren, G. G. Lawrence, F. Lawrence, W. Henderson, J. W. P. Rawlins, C. J. Mead, F. A. Jarvis, L. Warren, A. R. Lane, — Boskin, E. Emmerson, — Doig, F. W. Kirby, and R. B. Parton. A vote of thanks to the hon. secretary (Mr. Hubert Hill) for the excellent arrangements made was passed.

BOOK REVIEW

Army Manual of Hygiene and Sanitation. H.M. Stationery Office, or through any bookstall. Price 2s. 6d. net.

This manual is specially prepared for the instruction and guidance of regimental officers, warrant officers, non-commissioned officers, and men of all arms. Further, it is intended to be a guide and reference book for officer and non-commissioned officer instructors engaged in the training of the sanitary personnel of the Army; and last, but not least, it is claimed for the manual that it will afford a handy reference book in all matters of sanitation under the varying conditions of military service.

In our view the claims made by the publishers have been substantiated. In putting out this manual, the Army Council has performed a great service, for the manual teems with matter necessary for the preservation and promotion of health and the prevention of disease, and the performance of the duties necessary for good sanitation. A mere glance at its contents, its appendix, and above all, the many illustrations included, indicates and fully proves that the work is comprehensive.

NEW BUILDINGS IN LONDON

ADDINGTON.—Houses.—Messrs. Bennett, Worskett and Bennett, 74, Shirley-way, are to erect 40 houses at The Lees and Bennett's-way.

ADDINGTON. — Rebuilding.—No architect has yet been appointed for the re-erection of the "Cricketers" public-house. The owners are Messrs. Nalder and Collyer Brewery Co., Ltd., High-street, Croydon.

ADDISCOMBE. — Additions. — Messrs. Wright's Motors, 366-370, Lower Addiscombe-road, are to make alterations and additions to 366-370, Lower Addiscombe-road.

ALPERTON. — School.—The Middlesex E.C. are to purchase land in Lily-gardens, for a new elementary school.

BARKING.—Flats.—The T.C. are inviting tenders for the erection of 20 flats on five corner sites in Ripple-road. The Borough Engineer and Surveyor, Mr. R. A. Lay, Assoc.M.Inst.C.E., has prepared the plans.

BEDDINGTON.—Flats.—The U.D.C. has approved plans for the erection in Croydon-road of a block of 30 flats at the junction with Harcourt-road for Messrs. Morris, Hadley and Co., of 11, Haymarket, S.W.1.

BERMONDSEY.—Flats.—The B.C. has recommended that the sketch plans for the erection of 124 flats and seven shops on the Prospect-street, Nos. 1 and 2 Areas be approved, and the estimate of the General Manager, at £72,547 be accepted.

BETHNAL GREEN.—Extension.—The plans for the extension of the Town Hall and the provision of a public assembly hall have been approved by the B.C. The plans have been prepared by Mr. E. C. P. Monson, F.R.I.B.A., 120, Moorgate, E.C.2.

BLOOMSBURY.—Hospital.—The Institute of Medical Psychology, Malet-place, W.C.1, proposes to build a hospital on the site which it recently bought in Store-street. The architect for the scheme is Mr. Graham Dawbarn, F.R.I.B.A., 43, Grosvenor-place, S.W.1. No contracts placed.

BOROUGH.—Rebuilding. — Messrs. Watney, Combe, Reid and Co., Ltd., Stag Brewery, Pimlico, S.W.1, are proposing to rebuild the "Red Lion" public-house, at 280, Borough High-street, S.E. The company's architect is Mr. A. W. Blomfield, F.R.I.B.A.

BROMLEY-BY-BOW, E.3. — Building.—Messrs. Kemball, Bishop and Co., Ltd., are erecting a reinforced concrete coke bunker in connection with their gas producing plant to the design of the Birmingham Construction Co. The work is under the supervision of the company's resident engineer, Mr. E. C. Hepworth, M.I.Mech.E., and the contractors are Messrs. Charles R. Price, of Bishopsgate, E.C.

CAMDEN TOWN. — Building.—Messrs. Henry Lees and Co., of Glasgow, are erecting new coaling and ash-handling plants for the L.M.S. Railway at Camden Town. The reinforced concrete bunkers are being built by Messrs. Charles R. Price, of Bishopsgate, E.C., to the design of Mr. J. C. Hughes, M.I.Struct.E., of 44, Grosvenor-place.

CARLTON-GARDENS. — Reconstruction.—Messrs. Ainsley, 3 and 4, Portsmouth-street, Lincoln's Inn Fields, W.C.2, are the quantity surveyors, and tenders are being invited for the alteration and reconstruction of No. 6, for the Committee of the Athenæum, Pall Mall, S.W.1.

CHARING CROSS.—Reconstruction.—The governors of the Charing Cross Hospital have appointed Messrs. Adams, Holden and Pearson, FF.R.I.B.A., 9, Knightsbridge, S.W.1, as architects for any scheme of reconstruction which the governors may decide to undertake.

CROYDON.—Extensions.—The E.C. have issued a notice stating that they are to extend by 100 places the accommodation at Duffas school.

CROYDON. — Additions. — Messrs. J. Lyons and Co., Ltd., building department, Cadby Hall, Kensington, S.W., are to alter and extend 3, George-street.

CROYDON.—Shops.—The Liverpool Victoria Friendly Society, Victoria House, Southampton-row, W.C.1, are to have new shops with office and rooms over erected at the High-street, and Meadow-stile. The plans are by the Society's own architectural department, and the building contract has been placed with Messrs. J. and R. Rooff, Ltd., 695, Barking-road, E.13.

CROYDON.—Chapel.—The C.B. has recommended the tender for the erection of a chapel and crematorium at Mitcham-road cemetery, submitted by Messrs. Wilson Bros., Ritherdon-road, S.W.17, at £6,465 7s. 2d.

CROYDON. — Extensions. — Mr. J. M. Sheppard, F.R.I.B.A., 38, Bedford--place, W.C.1, is to submit plans to the C.B. for extensions to the sick hospital; additions at the nurses' home and the kitchen and laundry; and a house for a medical officer of mental hospital.

CROYDON.—Flats.—Mr. J. E. Fox, 3, Marlpit-avenue, Coulsdon, is to erect a block of flats in Brighton-road.

CROYDON.—Factories.—The C.B. has approved plans submitted by the Factory Estate, Ltd., Staffa Works, Staffa-road, E.10, for two factories at 7 and 8, Commerce-way, Waddon.

CROYDON.—Store.—The South Suburban Co-operative Society, Ltd., 99, London-road, are to have a new butchery and provision store erected at 225, Wickham-road.

DAGENHAM.—Factory.—The Teddy Toy Co., 1, Nicholls-buildings, Playhouse-yard, E.C.1, are to have a new factory in New-road, off Oxlow-lane. No architect or builder has yet been decided upon.

DAGENHAM.—Hall.—Mr. C. Day, 5, New-road, Dagenham, is to erect a new shop and billiard hall on the south side of New-road. The architect is Mr. Edward Meredith, F.R.I.B.A., 7, Goodmayes-road, Goodmayes.

DAGENHAM.—Offices.—The Bridge Engineering Co., Ilford, are to erect a new factory and offices at Sterling Works for Messrs. John Ismay and Sons, Ltd., Roden Works, Ilford.

EALING.—Church.—The T.C. has now approved plans by Mr. J. P. Blake, 24A, Bath-road, Hounslow, for the proposed church for the Congregational Union in Medway-drive.

EALING.—Houses.—Messrs. Taylor, Woodrow Estates, Ltd., Adrienne-avenue, Ruislip-road, Southall, are to erect 168 houses at George Fifth-way, Jubilee-road and Jubilee-close.

EALING.—Houses.—The London and Provincial Building Co., Ltd., Greystoke Estate Office, Lynwood-road, W.5, propose erecting 113 houses and 78 garages in Sandringham-road, Court Farm-road, Summit-road and Fort-road.

EDGWARE-ROAD.—Shops.—Mr. H. Alexander, L.R.I.B.A., 60, Richmond-road, Bayswater, W.2, is the architect for block of shops and flats at Nos. 353, 355 and 357.

HANWORTH. — Alterations. — A contract by Messrs. G. Godson and Sons, Ltd., Kilburn-lane, W., has been approved by the Middlesex C.C. for alterations and improvements to the council school, at £7,408.

HARROW-ROAD. — Rebuilding. — The "Ivy Tavern," No. 167, is to be rebuilt, with improved accommodation. The Paddington B.C. has offered no objection to the scheme.

HERNE HILL. — Alterations. — Messrs. F. J. Moreton and Son, 171, Gipsy-road, West Norwood, S.E.27, are altering the branch post office for the H.M.O.W.

HOUNSLOW. — Extensions. — H.M.O.W. have placed a contract with Mr. W. S. Try, of Cowley, Uxbridge, for extensions to the Inland Revenue office in Montague-road.

KINGSBURY. — School.—The Middlesex E.C. are to purchase land in Bacon-lane for an elementary school.

NORBURY. — Offices. — Messrs. Wates, Ltd., London-road, Mitcham, are to erect offices, garages and workshop in London-road, S.W.16.

NORTHOLT.—Bank.—Plans have been approved for the construction of bank premises and shop at No. 1, Teignmouth-parade, Western-avenue, for Messrs. Lloyds Bank, Ltd.

NORTHOLT. — Flats. — Mr. E. Wm. Palmer, Clock-chambers, London-road, Enfield, is the architect for two blocks, comprising 44 flats, in Church-road, for Messrs. Willoughby and Jay, Ltd.

OLD BOND - STREET.—Extensions.—No contracts yet been placed for the extensions at No. 33, and 2, Stafford-street, W.1. The architects are Messrs. Wimperis, Simpson and Guthrie, FF.R.I.B.A., 61, South Molton-street, W.1.

PADDINGTON.—Houses.—Messrs. Vigor and Co., Ltd., 15, King-street, Poplar, E.14, are erecting from plans prepared by Mr. Austin Blomfield, A.R.I.B.A., 1, New-court, Temple, E.C.4, for 12 residential houses on the west side of Connaught-square-mews, W.2.

PADDINGTON GREEN. — Premises.—No contracts yet placed for the new premises to be erected at Nos. 8-10. The architect is Mr. A. L. Abbott, F.R.I.B.A., 6, Queen Anne's-gate, S.W.1.

PARK ROYAL.—Factory.—Messrs. Allnatt, Ltd., are restoring, after fire, the factory in Park Royal-road, N.W.10. Demolition work on the site is being carried out by the London Demolition Co., Ltd., Isleworth.

PERIVALE.—Factory.—Is to be erected in Wadsworth-road for Messrs. British Milanese, Ltd. The architect is Mr. R. Seifert, 1-5, Broad Street-place, E.C.2.

POPLAR. — Improvements. — Messrs. F. and T. Thorne, 266, Manchester-road, E.14, have secured the contract for improving 43 houses and erecting 30 sculleries to houses at 1-13, Gaverick-street, 1-10, Crew-street, and 5-13, Claude-street, from plans prepared by Messrs. Hooper, Cushen and Co., Millwall, E.14. The work is estimated to cost about £3,000.

POPLAR.—Rebuilding.—Messrs. H. and J. Taylor (Contractors), Ltd., Canada House, Hither Green-road, S.E.13, are rebuilding the "Moulders' Arms," beer-house, 48-52, High-street, E.13. The architect is Mr. William Stewart, F.R.I.B.A., 4, Aldgate High-street, E.C.3.

POPLAR.—Warehouse.—No contracts yet placed for the warehouse to be erected at 23-31, Poplar High-street. The architect is Mr. G. F. Clarkson, A.R.I.B.A., 32, Great Ormond-street, W.C.1.

PRINCES-GATE.—Rebuilding.—Mr. Septimus Warwick, F.R.I.B.A., 2, Cockspur-street, S.W.1, is the architect of the rebuilding of Nos. 1-11.

PURLEY.—Extensions.—The Coulsdon and Purley U.D.C. are inviting tenders for extension of the Council Offices, Brighton-road. Mr. F. S. Henniker, F.S.I., Adelphi Terrace House, Adelphi, W.C.2, has prepared the quantities. The architects are Messrs. Nicholls and Hughes, 4, Raymond-buildings, Gray's Inn, W.C.1.

RUISLIP.—Extensions.—Are to be carried out, at £11,559, at Lady Bankes school, Dawlish-drive, by Messrs. G. Godson and Sons, Ltd., Kilburn-lane, W., for the Middlesex C.C.

RUISLIP.—Church. — Mr. N. F. Cachemaille-Day, F.R.I.B.A., 26, Dorset-street, W.1, is the architect for the erection of the new St. Paul's Church at Ruislip Manor. The reinforced concrete engineers are the Trussed Concrete Steel Co., Ltd. The contractors are Messrs. Pitchers, Ltd., 57, Ashburton-grove, N.7.

RUTLAND-MEWS EAST.—Flats.—Mr. E. Goldfinger, 7, Bedford-square, W.C.1, is the architect for flats to be erected at Nos. 3 and 4. No contracts placed.

ST. JAMES'S-SQUARE.—Conversion.—The Consolidated Rubber Manufacturers, Ltd., have taken premises at No. 3 and the adjoining building in Babmaes-mews for conversion into offices and laboratories. The architects are Messrs. A. and D. Ospalak, of 13/15, Old Queen-street, S.W.1, and the contractors Messrs. Charles R. Price, of Bishopsgate.

SOUTH CROYDON. — HALL. — The Trustees of the South Croydon Methodist Church, Brighton-road, are to erect a new church hall in Bartlett-street. Plans have been approved.

STANMORE.—HALL.—Messrs. J. Laing and Son, Ltd., of Mill Hill, N.W.7, are erecting a church hall in Culver-grove. Mr. H. C. Hollis, A.R.I.B.A., 34, Paternoster-row, E.C.4, is the architect.

TOTTENHAM.—ADDITIONS.—Mr. R. J. L. Slater, F.R.I.B.A., 199, Plashet-grove, E.6, is the architect for the alterations and additions to Messrs. Jameson's Chocolates, Ltd.'s, factory in Willoughby-lane.

TOTTENHAM.—EXTENSIONS.—A scheme is being proposed for extensions to the factory in Fountayne-road, for the Mills Equipment Co., Ltd., and the Highway and Works Committee of the T.C. has approved the application under the Interim Development Act.

TOTTENHAM. — EXTENSIONS. — Messrs. Barber, Wilsons and Co., Ltd., engineers, Westbury-avenue, N.22, are having the factory in Boundary-road extended from plans prepared by themselves. The builders are Messrs. E. and A. Jenkin, 393, High-road, Wood Green, N.22.

TOTTENHAM. — EXTENSIONS. — Messrs. R. F. Peachey and Sons, Ltd., "Hornefield," Church-lane, N.17, are the builders for extension of workshop and showroom at the Gt. Cambridge-road Eastern Arms garage on site of "Parkside" and "Hornefield," Church-lane. The architects are Messrs. Boreham, Son and Wallace, 1, Museum-street, W.C.1.

UXBRIDGE. — OFFICES.—The Middlesex C.C. has approved in principle the erection of local County Offices on the site known as "Dragonfield," High-street, and tenders in accordance with the plans prepared by the County Architect are to be obtained.

UXBRIDGE. — OFFICES. — The Middlesex C.C. has recommended that the County Architect's designing and supervising the erection of the new municipal buildings proposed to be erected by the Uxbridge U.D.C. on the site of 263, 264 and 265, High-street, be approved.

VAUXHALL.—SHOPS. — Sir John Brown and Mr. A. E. Henson, 83, St. Giles'-street, Northampton, are the architects for shops, flats and garage in Wilton-road and Vauxhall Bridge-road, S.W.1.

WADDON. — FACTORY. — Messrs. Bryce, Ltd., Vintry House, Queen-street-place, E.C.4, are erecting factory and offices in Purley-way, next Messrs. R.I., Ltd. Mr. J. Valentine Bowring is the architect.

WALTHAMSTOW.—EXTENSIONS.—No contracts have yet been placed for the factory extension at Fingal Works in Staffa-road. Messrs. Wallis Gilbert and Partners, 15, Elizabeth-street, S.W.1, are the architects.

WALTHAMSTOW. — EXTENSIONS. — The architect to the E.C., Mr. F. H. Heaven, A.R.I.B.A., has prepared sketch plans for remodelling the lavatory accommodation, and to provide new art and science rooms and shower baths for both sexes at the William Morris Central School at £15,000.

WALTHAMSTOW. — FACTORY. — Messrs. G. L. Hearn and Partner, surveyors, 27, Borough High-street, S.E.1, and Mr. Cyril E. Hartshorne, 35, Albemarle-street, W.1, are applying to the T.C. for the erection of a factory on land known as "Stoneydown," Blackhorse-road.

WALTHAMSTOW.—HOUSING.—The Housing Committee of the T.C. are considering the acquisition of a site at the junction of Billet-road and the North Circular-road for housing and a site adjoining the Higham Hill branch library, known as Countess-road shoot, also for housing purposes.

WALTHAMSTOW. — SHOPS. — The T.C. has approved a preliminary block plan of 12 shops and 20 flats in Forest-road and Falmer-road. Messrs. McManus and Co., Ltd., High-road, N.20, are the builders.

WIMBLEDON.—BUILDING.—Mr. R. M. F. Huddart, of Wimbledon, has submitted a scheme to the T.C. for the development of the site of 4, Grosvenor-hill.

WIMBLEDON HILL. — FLATS. — A further block of flats are to be erected on plot No. 30 on the Draxmount estate. The architects are Messrs. Annesley Brownrigg and Hiscock, 13, South-square, Gray's Inn, W.C.1, and the builder is Mr. S. Derwent, Gables, Arterberry-road, S.W.20. The floors are by Truscon Precast.

COMPANY NEWS

Barry and Staines Linoleum, Ltd.

The 72nd annual report of this company indicates that the balance of profit for the year ended January 31 last is £212,337, which with the balance brought forward gives a total of £296,101. Interim dividends on the ordinary shares of 7½ per cent. (making 12½ per cent. for the year) will be recommended to the annual general meeting on May 5.

Alliance Assurance Co., Ltd.

The report of the directors of this company, to be presented at the annual court on May 13, indicate that profits for the year 1935 were £897,729. An interim dividend of 10s. per share, bringing the final dividend for the year to 18s., will be recommended. The net premiums on the Fire account was £2,103,080, an excess of £46,479 on the previous year. The total funds of the company are £38,609,359.

An Illuminated Blackboard.

An illuminated blackboard has been designed by Mr. R. O. Sutherland, A.R.I.B.A., the architect to the E.L.M.A. Lighting Service Bureau. The form, Mr. Sutherland states, was inspired by the shape of a pair of compasses, and the aim was to provide a blackboard with facilities for chalks, duster and pointer, and also an adjustable arm for providing artificial light.

NEW PUBLIC WORKS

GREAT BRITAIN.—Among the contracts advertised in this issue by local authorities as being open to tender are: The King Edward VII Welsh National Memorial Association—new ward block of 51 beds at Glan Ely Hospital, Fairwater, near Cardiff; Stamford T.C.—36 houses on Cemetery-road housing site; Northamptonshire C.C.—Rushden House Sanatorium, hospital block; and Stepney B.C.—17 dwellings on Old Gravel-lane site.

JARROW.—The Commissioner for the Special Areas announces that agreement in principle has been obtained on the steps necessary to bring into effect the proposal for the construction of deep-water quays on the River Tyne, on the north side of Tyne Dock between Jarrow and South Shields. The scheme is to be undertaken by the Tyne Improvement Commission, with financial assistance from the Commissioner. It is estimated that the total cost will be in the neighbourhood of £1,350,000. The scheme is for an open-water jetty about 1,400 ft long, with a depth alongside of 35 ft.

NEW COMPANIES

The particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies Registry.

S. R. FORREST, LTD. (312,708). Registered April 4. Old Tudor House, Church-street, Lyme Regis, Dorset. Builders, contractors, etc. Nominal capital, £1,000.

GLASS (NORTHAMPTON), LTD. (312,746). Registered April 6. 9 and 11, Bull Head-lane, Northampton. Builders' merchants, etc. Nominal capital, £2,000.

W. J. HARTWELL, LTD. (312,718). Registered April 4. 4a, Castle-street, Eastwood. Builders, contractors, etc. Nominal capital, £1,000.

H. & U. BUILDERS, LTD. (312,686). Registered April 4. Builders and contractors, etc. Nominal capital, £1,000. E. G. Hook, "Oakdene," 42, Sandilands, Addiscombe.

WRIGHT & HARDING, LTD. (312,659). Registered April 3. Plasterers. Nominal capital, £1,500. T. E. Wright, 22, Scott-road, Walsall.

BARKER BROS. (MACCLESFIELD), LTD. (312,585). Registered April 3. Painter, decorator and builder. At 20, Chester-road, Macclesfield. Nominal capital £3,000.

A. MARTIN (BRIGHTON), LTD. (312,582). Registered April 3. 150, North-street, Brighton. Builders, contractors, etc. Nominal capital, £1,000.

W. E. & S. RUMPH (BUILDERS), LTD. (312,571). Registered April 2. 6, Limesgrove, Lewisham, S.E.13. Builders and building contractors. Nominal capital, £1,000.

TOWNSEND & COLLINS, LTD. (312,568). Registered April 2. Builders, contractors and estate developers. At 6, Lime Tree-walk, Enfield. Nominal capital, £3,000.

CONNAUGHT CONSTRUCTIONS & IMPROVEMENTS, LTD. (312,514). Registered April 2. Builders and contractors, etc. Nominal capital, £1,000. Anne M. Parker, Gate, Sedbergh.

NORMAN DOVEY, LTD. (312,553). Registered April 2. To acquire lands or buildings; to erect houses, etc. Nominal capital, £4,000. W. H. Tomlinson, The Coppice, Manor-road, Leicester.

WALTER S. WOOD, LTD. (312,291). Registered March 28. 81, West Percy-street, North Shields. Plumbers, heating, sanitary and general engineers, etc. Nominal capital, £1,000.

CULGAITH BRICK & TILE CO., LTD. (312,417). Registered April 1. Sandes-avenue, Kendal. Brick and tile manufacturers and merchants. Nominal capital, £5,000.

T. S. W., LTD. (312,283). Registered March 28. 41, Spenser-street, Victoria-street, S.W.1. Manufacturers of and dealers in building materials, etc. Nominal capital, £5,000.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1935.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Crafts-men.	Lab-ourers.
Aberdare	1/6	1/1½
Abergavenny	1/6	1/1½
Abingdon	1/5	1/0¾
Accrington	1/6½	1/2
Aldeburgh	1/2½	11
Aldershot	1/3½	11¾
Alfreton	1/6½	1/2
Alnwick	1/6	1/1½
Altrincham	1/6½	1/2
Amble	1/6	1/1½
Amersham	1/4½	1/0½
Ammanford	1/6½	1/2
Andover	1/3½	11¾
Ardingley	1/4½	1/0½
Arundel	1/4	1/0
Ascot	1/4½	1/0½
Ashby-de-la-Zouch	1/5	1/0¾
Ashford (Kent)	1/3½	11¾
Ashford (Middlesex)	1/5½	1/1¾
Ashington	1/6	1/1½
Ashstead	1/5	1/0¾
Ashton-under-Lyme	1/6½	1/2
Aylesbury	1/4	1/0
Aylsham	1/3½	11¾
Bagshot	1/3½	11¾
Banbury	1/4	1/0
Barnsley	1/6½	1/2
Barnstaple	1/4½	1/0½
Barrow-in-Furness	1/6½	1/2
Barry	1/6½	1/2
Basingstoke	1/4	1/0
Bath	1/5½	1/1½
Batley	1/6½	1/2
Beaconsfield	1/4½	1/0½
Beccles	1/3	11¼
Bedford	1/5½	1/1½
Berkhamsted	1/4	1/-
Berwick	1/5½	1/1½
Beverley	1/6½	1/2
Bexhill-on-Sea	1/4½	1/0½
Bideford	1/4½	1/0½
Biggleswade	1/4	1/-
Billericay	1/4	1/-
Birchington	1/4	1/-
Birkenhead	1/8‡	1/3½
Birmingham	1/6½	1/2
Bishop Auckland	1/6	1/1½
Bishops Stortford	1/5	1/0¾
Blackburn	1/6½	1/2
Blackpool	1/6½	1/2
Blyth	1/6½	1/2
Bognor Regis	1/4	1/-
Bolton	1/6½	1/2
Bournemouth	1/5½	1/1½
Bracknell	1/4	1/-
Bradford	1/6½	1/2
Bradford-on-Avon	1/3½*	11¾
Braintree	1/4½	1/0¾
Brentwood	1/6	1/1½
Bridgwater	1/4½	1/0½
Bridlington	1/6	1/1½
Brighouse	1/6½	1/2
Brighton	1/5½	1/1½
Bristol	1/6½	1/2
Broadstairs	1/4	1/-
Bromsgrove	1/5½	1/1½
Buckley	1/6½	1/2
Bungay	1/2½	11
Burnham-on-Crouch	1/3	11¼
Burnley	1/6½	1/2
Burslem	1/6½	1/2
Burton-on-Trent	1/6½	1/2
Bury	1/6½	1/2
Bury St. Edmunds	1/4	1/-
Buxton	1/6	1/1½
Byfleet	1/4½	1/0½
Cambridge	1/6	1/1½
Canterbury	1/4	1/-
Cardiff	1/6½	1/2
Carlisle	1/6½	1/2
Carnforth	1/6½	1/2
Castleford	1/6½	1/2
Caterham	1/5	1/0¾
Chard	1/3½*	11¾
Chatham	1/5	1/0¾
Chelmsford	1/5	1/0¾
Cheltenham	1/5	1/0¾
Chepstow	1/5½	1/1¾
Chertsey	1/5	1/0¾
Chester	1/6½	1/2
Chesterfield	1/6½	1/2
Chichester	1/4	1/-
Chorley	1/6½	1/2
Cirencester	1/4*	1/-
Clacton	1/4½	1/0½
Cleveleys	1/6½	1/2
Clitheroe	1/6½	1/2
Cobham	1/5	1/0¾
Colchester	1/5½	1/1¾
Colwyn Bay	1/5½	1/1¾
Congleton	1/6	1/1½
Coventry	1/6½	1/2
Cranbrook	1/3	11¼
Cranleigh	1/3½	11¾
Crawley	1/4½	1/0½
Crewe	1/5½	1/1¾
Cromer	1/3½	11¾
Crowborough	1/4½	1/0½
Cuckfield	1/4½	1/0½
Darlington	1/6½	1/2
Darwen	1/6½	1/2
Daventry	1/5	1/0¾
Deal	1/4	1/-
Denbigh	1/5	1/0¾
Derby	1/6½	1/2
Devizes	1/3*	11¼
Dewsbury	1/6½	1/2
Didcot	1/4½	1/0½
Diss	1/3	11¼
Doncaster	1/6½	1/2
Dorchester	1/4*	1/-
Dorking	1/4½	1/0½
Dover	1/4	1/-
Dovercourt	1/4½	1/0½
Driffield	1/5	1/0¾
Droitwich	1/5½	1/1¾
Dudley	1/6½	1/2
Dunstable	1/4½	1/0½
Durham City	1/6½	1/2
Eastbourne	1/5½	1/1½
E.Glam.(Mon.Val.)	1/6	1/1½
East Grinstead	1/4½	1/0½
Edenbridge	1/4½	1/0½
Ely	1/3	11¼
Epping	1/6½	1/2
Exeter	1/5½†	1/1½
Exmouth	1/4½	1/0½
Fakenham	1/3	11¼
Falmouth	1/5	1/0¾
Fareham	1/4	1/-
Faversham	1/3½	11¾
Felixstowe	1/5	1/0¾
Filey	1/5	1/0¾
Fleetwood	1/6½	1/2
Flint	1/6	1/1½
Folkestone	1/4	1/-
Frinton-on-Sea	1/4½	1/0½
Frome	1/3½*	11¾
Gainsborough	1/5½	1/1¾
Gateshead	1/6½	1/2
Gillingham	1/5	1/0¾
Glossop	1/6½	1/2
Gloucester	1/5½†	1/1½
Godalming	1/4½	1/0½
Goole	1/6½	1/2
Gosport	1/5½	1/1½
Grantham	1/5	1/0¾
Gravesend	1/6	1/1½
Gt. Yarmouth	1/4½	1/0½
Grimsby	1/6½	1/2
Guildford	1/4½	1/0½
Guilsborough	1/5	1/0¾
Halifax	1/6½	1/2
Hanley	1/6½	1/2
Harpenden	1/5	1/0¾
Harrogate	1/6½	1/2
Hartlepools	1/6½	1/2
Harwich	1/4½	1/0½
Haslemere	1/3½	11¾
Hastings	1/4	1/0
Hatfield	1/5½	1/1½
Haywards Heath	1/4½	1/0½
Hednesford	1/6	1/1½
Hemel Hempstead	1/5½	1/1½
Henley	1/4½	1/0½
Hereford	1/4½*	1/0½
Herne Bay	1/4	1/0
Hertford	1/5½	1/1½
Heysham	1/6½	1/2
Hitchin	1/5	1/0¾
Hoddesdon	1/5½	1/1¾
Holt	1/2½	11
Horley	1/4	1/-
Horsham	1/4	1/-
Horwich	1/6½	1/2
Huddersfield	1/6½	1/2
Hull	1/6½	1/2
Hunstanton	1/3	11¼
Huntingdon	1/3½	11¾
Ilfracombe	1/4½	1/0½
Ingatestone	1/4½	1/0½
Ipswich	1/5½	1/1¾
Isle of Thanet	1/4	1/-
Isle of Wight	1/3½	11¾
Keighley	1/6½	1/2
Kenilworth	1/6½	1/2
Kettering	1/6	1/1½
Kidderminster	1/5½	1/1¾
King's Lynn	1/4	1/-
Kirkham	1/6½	1/2
Knowle	1/6	1/1½
Lancaster	1/6½	1/2
Leamington	1/6	1/1½
Leatherhead	1/5½	1/1¾
Leeds	1/6½	1/2
Leicester	1/6½	1/2
Leighton Buzzard	1/3½	11¾
Letchworth	1/5	1/0¾
Lewes	1/3	11¼
Lichfield	1/5½	1/1¾
Lincoln	1/6½	1/2
Littlehampton	1/4	1/-
Liverpool	1/8‡	1/3½
Llandudno	1/5½	1/1¾
Llanelly	1/6½	1/2
London:		
12 m. radius	1/8*	1/3
12-15 m. radius	1/7½*	1/2¾
Long Eaton	1/6½	1/2
Longton	1/6½	1/2
Loughborough	1/6½	1/2
Louth	1/5	1/0¾
Lowestoft	1/4½	1/0½
Luton	1/6	1/1½
Macclesfield	1/6	1/1½
Maidenhead	1/5	1/0¾
Maidstone	1/5	1/0¾
Malvern	1/5	1/0¾
Manchester	1/6½	1/2
Manningtree	1/3	11¼
Mansfield	1/6½	1/2
March	1/3½	11¾
Margate	1/4	1/-
Market Harborough	1/5½	1/1¾
Matlock	1/5	1/0¾
Melton-Constable	1/2½	11
Melton Mowbray	1/5½	1/1¾
Merthyr Tydfil	1/6	1/1½
Middlesbrough	1/6½	1/2
Middleton	1/6½	1/2
Middlewich	1/5½	1/1¾
Milford Haven	1/4½	1/0½
Morecambe	1/6½	1/2
Morley	1/6½	1/2
Mundesley	1/3½	11¾
Nantwich	1/5½	1/1¾
Newark-on-Trent	1/5½	1/1¾
Newbury	1/4	1/-
Newcastle-on-Tyne	1/6½	1/2
Newcastle-u-Lyme	1/6½	1/2
New Forest	1/3½	11¾
Newmarket	1/4½	1/0½
Newport, Mon.	1/6½	1/2
Newport Pagnell	1/3½	11¾
Northampton	1/6½	1/2
Norwich	1/6	1/1½
Nottingham	1/6½	1/2
Nuneaton	1/6½	1/2
Oakham	1/5	1/0¾
Oldham	1/6½	1/2
Ormskirk	1/6½	1/2
Oxford	1/6	1/1½
Oxted	1/3½	11¾
Paignton	1/6	1/1½
Peterborough	1/6	1/1½
Plymouth	1/6½†	1/2
Pontypridd	1/6	1/1½
Portsmouth	1/5½	1/1¾
Port Talbot	1/6½	1/2
Preston	1/6½	1/2
Pulborough	1/3	11¼
Ramsgate	1/4	1/-
Reading	1/5½	1/1¾
Redditch	1/5½	1/1¾
Redhill	1/4½	1/0½
Reigate	1/4½	1/0½
Retford	1/5	1/0¾
Rickmansworth	1/6	1/1½
Ripon	1/5	1/0¾
Rochdale	1/6½	1/2
Rochester	1/5	1/0¾
Rugby	1/6½	1/2
Saffron Walden	1/3	11¼
St. Albans	1/6	1/1½
St. Helens	1/6½	1/2
St. Neots	1/3½	11¾
Salisbury City	1/3½*	11¾
Salisbury Plain	1/3½*	11¾
Sawbridgeworth	1/4½	1/0½
Saxmundham	1/2½	11
Scarborough	1/6	1/1½
Selby	1/6½	1/2
Sevenoaks	1/5	1/0½
Sheerness	1/4	1/-
Sheffield	1/6½	1/2
Shipley	1/6½	1/2
Shoeburyness	1/6	1/1½
Shoreham	1/5	1/0¾
Shrewsbury	1/5½	1/1¾
Sittingbourne	1/3½	11¾
Skegness	1/5½	1/1¾
Sleaford	1/5	1/0¾
Slough	1/5½	1/1¾
Southampton	1/5½	1/1¾
Southend-on-Sea	1/6	1/1½
Southport	1/6½	1/2
South Shields	1/6½	1/2
Spalding	1/4	1/-
Stafford	1/6	1/1½
Staines	1/5½	1/1¾
Stamford	1/5	1/0¾
Stevenage	1/5	1/0¾
Stockport	1/6½	1/2
Stockton-on-Tees	1/6½	1/2
Stoke-on-Trent	1/6½	1/2
Stourbridge	1/6	1/1½
Stourport	1/5½	1/1¾
Stowmarket	1/3	11¼
Stratford-on-Avon	1/5	1/0¾
Stroud	1/5†	1/0¾
Sunderland	1/6½	1/2
Sutton Coldfield	1/6½	1/2
Swaffham	1/2½	11
Swanage	1/4½*	1/0½
Swansea	1/6½	1/2
Swindon	1/5*	1/0¾
Tamworth	1/6	1/1½
Taunton	1/4½	1/0½
Tenterden	1/3½	11¾
Tewkesbury	1/5*	1/0¾
Thetford	1/3	11¼
Thorpe Bay	1/6	1/1½
Todmorden	1/6½	1/2
Tonbridge	1/5	1/0¾
Torquay	1/6	1/1½
Totnes	1/4½†	1/0½
Trowbridge	1/3½*	11¾
Truro	1/3½	11¾
Tunbridge Wells	1/5	1/0¾
Uppingham	1/5	1/0¾
Uttoxeter	1/5	1/0¾
Wakefield	1/6½	1/2
Walsall	1/6½	1/2
Walsden	1/6½	1/2
Walton-on-Naze	1/4½	1/0½
Ware	1/5½	1/1¾
Warminster	1/3½*	11¾
Warrington	1/6½	1/2
Warwick	1/6	1/1½
Wellingborough	1/6	1/1½
Wells (Norfolk)	1/2½	11
Welwyn	1/5½	1/1¾
Welwyn Gar. City	1/6½	1/2
West Bromwich	1/6½	1/2
Westcliff-on-Sea	1/6	1/1½
Weston-super-Mare	1/5½	1/1¾
Weybridge	1/5	1/0¾
Weymouth	1/4*	1/-
Whitby	1/5½	1/1¾
Whitstable	1/4	1/-
Widnes	1/6½	1/2
Wigan	1/6½	1/2
Wigton	1/5	1/0¾
Willington	1/6	1/1½
Wilmslow	1/6½	1/2
Winchester	1/4½	1/0½
Windermere	1/5	1/0¾
Windsor	1/5½	1/1¾
Wisbech	1/3½	11¾
Witham	1/4½	1/0½
Woking	1/4½	1/0½
Wokingham	1/4½	1/0½
Wolverhampton	1/6½	1/2
Woodbridge	1/3½	11¾
Worcester	1/5½	1/1¾
Workington	1/5	1/0¾
Worksop	1/5½	1/1¾
Worthing	1/4	1/-
Wrexham	1/6	1/1½
Wroxham	1/4	1/-
Wycombe	1/5	1/0¾
Wymondham	1/3	11¼
Yeovil	1/4½*	1/0½
York	1/6½	1/2

* Painters 1d. less than other Craftsmen. † Painters ½d. less than other Craftsmen. ‡ Plasterers 1/9.

For Building Trade Wages in Scotland see page 899.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

MAY 4.

Batley.—Extensions.—And alterations to buildings at grammar school. J. H. Desden, secretary, Education Office.

Bognor Regis. — Erection. — Of block of school buildings, also clinic and caretaker's house, for West Sussex C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £5 5s.

Bolsover.—Cottages.—40, and adjoining outbuildings in connection with land settlement scheme at Oxcroft Farm, for Derbyshire C.C. George H. Widdows, County Architect, County Offices, Derby. Dep. £2 2s.

Bromsgrove.—Houses.—99, at Perryfields, for U.D.C. R. Thompson, architect. Dep. £2 2s.

Bury.—Panelling.—And fitting of electricity showrooms, Market-st., for T.C. B.E. Dep. 10s.

Coventry.—Erection.—Of primary sub-station, Holbrooks-ln., for T.C. W. J. Marston, M.I.E.E., engineer and manager.

Dundee.—Repainting Work.—At King's Cross Hospital, for T.C. City Quantity S., 21, City-sq.

Dundee.—Repainting Work.—At various housing sites, for Public Health Department. City Quantity S., 21, City-sq.

Glasgow.—Clinic.—At Redan-st., Bridgeton, for T.C. Office of Public Works, City-chams., Room 81. Dep. £2 2s.

Grimsby.—Erection.—Of Bargate sub-station, and Town Hall-sq. sub-station, for T.C. S. R. Windle, Borough Electrical E., Electricity Works, Moss-rd.

Grimsby.—Alterations.—To old police buildings, Brighowgate, for T.C. H. Gilbert Wyatt, B.E. and S. Dep. £1 1s.

Hayes (Middlesex).—Redecorations.—At Townfield Council school, for C.C. Secretary to E.C., 10, Great George-st., S.W.1. Dep. £2 2s.

Herrison (Dorchester).—Dwelling-house.—At Dorset Mental Hospital, for Dorset C.C. County Architect, County Offices, Dorchester.

Hoylake.—Demolition.—Of Dee Cottage, at junction of Banks-rd. and Dee-ln., West Kirby, for U.D.C. Thos. Redfern, clerk.

Lancaster.—Pulling Down.—And rebuilding premises, Penny-st., for J. Potter. Reg. W. Jackson, L.R.I.B.A., architect and surveyor, 43, Church-st.

Leicester.—Provision.—Of fittings and furnishings in new science laboratories at Wyggeston grammar school for boys, for T.C. Director of Education. Dep. £2 2s.

Leyton.—Conversion.—Of rooms of Kirksdale-rd. school into office accommodation, for E.C. John H. Jacques, F.R.I.B.A., 61, West Ham-lane, E.15. Dep. £1.

Leyton.—Remodelling.—Of latrines at various schools, for B.C. John H. Jacques, F.R.I.B.A., 61, West Ham-lane, E.15. Dep. £1.

London.—Erection.—Of superstructure of large central highways depot and garage, in Gatliff-rd., for Westminster City C. G. Grey Wornum, F.R.I.B.A., 39, Devonshire-st.

Manchester.—Erection.—Of 204 houses at Stanton-st., Clayton, for T.C. Housing Director. Dep. £2 2s.

Middlesex.—Erection.—Of section G at Middlesex Colony, Shenley, Herts, for C.C. Clerk, Guildhall, Westminster, S.W.1. Dep. £2 2s.

Morley.—Houses.—20, on Baker-st. estate, for T.C. B.E. Dep. £2 2s.

New Southgate.—Redecorations.—At Bowes-rd. school, N.11, for Middlesex C.C. Secretary to E.C., 10, Great George-st., S.W.1. Dep. £2 2s.

Rawdon.—Conveniences.—At Mitchell Memorial Home, for West Riding C.C. Education Officer, County Hall, Wakefield.

Shenley (Herts).—Erection.—Of section G at Middlesex Colony, for Middlesex C.C. C. W. Radcliffe, Clerk, Guildhall, Westminster, S.W.1. Dep. £2 2s.

Southampton.—Erection.—Of art block No. 4, new civic centre, for C.B. T.C. Dep. £5 5s.

Stonehaven.—Construction.—Of reinforced concrete embankment at beach, for T.C. Henderson & Nicol, engineers, 21, Bridge-st., Aberdeen. Dep. £1 1s.

Swainsthorpe.—Bungalow.—At poor law institution, for Norfolk C.C. C. J. Norton, F.R.I.B.A., County Architect, 23, Thorpe-rd., Norwich.

Wallasey.—Erection.—Of employment exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Wallasey.—Bungalows.—One block of 10, at School-ln., for T.C. B.E. Dep. £2 2s.

Wigston.—Re-slating.—One pair of houses, for U.D.C. G. F. Stacey, E. and S.

MAY 5.

Colwyn Bay.—Construction.—Of greenhouse at Bron-y-Nant, for T.C. W. J. Dunning, B.S.

Devon.—Renovations.—And other works at schools, etc., for C.C. H. V. de Courcy Hague, F.R.I.B.A., County Architect, 97, Heavitree-rd., Exeter.

Downpatrick. — Reconstruction. — Of portions of County Courthouse, for Down C.C. J. G. Wilkins, C.S.

Dublin.—Painting.—At Rialto Hospital, Kilmainham, for Board of Assistance. J. C. Duffy, C.E., Clerk of Works, 1, James's-st. Dep. £3 3s.

Easingwold.—Water Tower.—At Claypenny Colony, for North Riding C.C. Fairbank & Son, engineers, Barclays Bank-chams., St. Helens-sq., York.

***Epping.**—Erection.—Of combined treatment centre, for Essex C.C. J. Stuart, F.R.I.B.A., Chelmsford. Dep. £1 1s.

Haworth.—Pavilion.—In Central-pk., for U.D.C. O. Barker, E. and S.

Kingswood.—Taking Down.—Existing court wall at junction of Regent-st. and Downend-rd., and rebuilding on new line, for U.D.C. S.

Lichfield.—Houses.—50, on Stychbrook site, Curborough-rd., for T.C. C. T. Read, City S., The Guildhall. Dep. £2 2s.

Marham, near King's Lynn. — Erection. — Of teacher's dwelling house, for Norfolk C.C. Clerk. Dep. £2 2s.

Prescot.—Painting.—And decorating interiors and exteriors of 14 houses in Houghton-st. and 37 parlour houses in The Wood, Prescot, for U.D.C. S. Dep. 10s.

South Cambridgeshire.—Houses.—8, at Horseheath and 2, at West Wickham, for R.D.C. H. Hales, clerk, County Hall, Hobson-st., Cambridge. Dep. £2 2s.

Southwell.—Nursery Block.—At County Institution, for Nottinghamshire C.C. County Architect, Shire Hall, Nottingham. Dep. £1 1s.

Sprowston.—Erection.—Of central school, for Norfolk C.C. Clerk. Dep. £5 5s.

MAY 6.

Biddulph.—Small Switch House.—At Braddocks Hay, for North-West Midlands Joint Electricity Authority. E. Forshaw & Sons, architects, Hanley. Dep. £1.

Blackhill, Co. Durham.—Painting.—At hospital, for Richard Murray Hospital Joint Board. Secretary, Shire Hall, Durham.

***Bristol.**—Additions.—To Connaught-rd. senior school, Knowle West, for T.C. Messrs. Gleeds, 40, Corn-st. Dep. £2 2s.

Coulsdon and Purley.—Installation.—Of heating and hot-water supply, at Sanderstead fire substation, Limpsfield-rd., Sanderstead, for U.D.C. S. Dep. £2 2s.

Crewe.—Erection.—Of new covered swimming baths in Flag-lane, for T.C. Leonard Reeves, B.E. and S. Dep. £5 5s.

Denbigh. — Dwellings. — 22, adjoining Horse Market, Smithfield-rd., for T.C. G. A. Jones, architect, Henllan, Trefnant. Dep. £1.

Durham.—Construction.—Of blocks of flats at Framwellgate, for T.C. T.C. Dep. £5 5s.

Durham. — Construction. — Of 32 bungalows, sewers, etc., in Sherburn-rd., for T.C. T.C. Dep. £3 3s.

FEDERATED EMPLOYERS

Insurance Association Ltd.
(non-tariff)

Head Office
8 King St., Manchester

All Classes of Insurance Transacted
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Guisborough.—Veranda.—And alterations to main ward at isolation hospital, for District Joint Isolation Hospital Committee. G. W. Beel, clerk, Council-chams.

Halifax.—Mason's Work.—In connection with electricity sub-station, Halifax-la., Luddenden, for T.C. D. T. Lloyd Jones, B.E., Crossley-st. Dep. £1 1s.

Lincolnshire.—Work.—At Irby school—concrete playground and internal decorations; Thorpe St. Peter school—slabbed concrete playground; Toynton All Saints school—concrete playground and internal decorations, for Lindsey C.C. Philip W. Birkett, A.R.I.B.A., County Architect, County Offices, Lincoln. Dep. £1.

North Kelsey.—Conversion.—To water closets, outside painting and tarring and sanding of playground of school, for Lindsey C.C. Philip W. Birkett, A.R.I.B.A., County Architect, County Offices, Lincoln. Dep. £1.

Plymouth.—Erection.—Of block of 8 flats, at Teats Hill, for T.C. City Architect. Dep. £5 5s.

Plymouth.—Erection.—Of block of 51 flats, at Wolseley-rd., for T.C. City Architect. Dep. £5 5s

Preston.—Conveniences.—At Corporation Arms Hotel, Lune-st., for T.C. B.E.

Southampton.—Physics Block.—At Highfield, for University College Council. Gutteridge & Gutteridge, architects, 9, Portland-st. Dep. £2 2s.

Southend-on-Sea. — Showroom in Shoeburyness, for C.B. Electricity Dept. T.C.

Trowbridge.—Houses.—112 2-story and 12 bungalows, also sewers and roads, on Longfield re-housing site, Mortimer-st., for U.D.C. Geo. W. J. Clark, E. and S. Dep. £2 2s.

Winterton.—Alterations.—To caretaker's house at school, for Lindsey C.C. Philip W. Birkett, A.R.I.B.A., County Architect, County Offices, Lincoln. Dep. £1.

Wragby.—Playground.—And minor alterations to school, for Lindsey C.C. Philip W. Birkett, A.R.I.B.A., County Architect, County Offices, Lincoln. Dep. £1.

MAY 7.

Barking.—Erection.—Of 20 flats in Ripple-rd., for B.C. B.E. and S.

Clitheroe. — Sub-station. — At Commercial Mill, Woone-la., for T.C. Electricity Office, King-st.

***Hayes (Middlesex).**—Erection.—Of 58 houses on Birch-way extension, for Great Western (London) Garden Village Society, Ltd. T. Alwyn Lloyd, F.R.I.B.A., 6, Cathedral-rd., Cardiff. Dep. £3 3s.

Liverpool.—Relief Offices.—At Stonefield-rd., Dovecot estate, for T.C. Land Steward and Surveyor, Municipal-bldgs.

Liverpool.—Painting.—At certain elementary schools, for T.C. Land Steward and Surveyor, Dep. £1 1s.

Llanelly.—Houses.—42, at Penygraig, Llwynhendy, for R.D.C. E. Morgan, architect, 63, Murray-st. Dep. £3.

Manchester.—Painting.—And decorating at various schools, for E.C. S.

Plympton St. Mary.—Stores.—And alterations to Council offices, for R.D.C. Percy T. Loosemore, clerk. Dep. £2 2s.

Uckfield.—External Decoration.—Of various cottages, for R.D.C. T. Burdett, S.

West Ham.—Erection.—Of 24 houses on Devonshire-rd. site, for C.B. B.E. Dep. £1.

MAY 8.

Dumbarton.—Houses.—200, at Brucehill, for T.C. B.E.

Dunfermline.—Houses.—8, at Kingseat, for T.C. D. H. Shaw, Burgh E. Dep. £1 1s.

Ealing.—Houses.—Block of five, at Olive-rd., Ealing, for T.C. F. J. Forty, B.E., Town Hall, Ealing, W.5. Dep. £1 1s.

Edinburgh.—Electric Lighting.—Bell and clock installations at Sheriff Court House, Lawnmarket, for H.M.O.W. Engineer, H.M. Office of Works, 122, George-st, Edinburgh. Dep. 10s.

Epsom. — Erection. — Of 32 houses in Hook-rd., for U.D.C. Williams, Pettett & Gardner, L./F.R.I.B.A. Dep. £3.

Liverpool.—Welfare Centre.—At Queen's-dr., Walton, for T.C. Land Steward and Surveyor.

Needham Market.—Erection.—Of police station, for East Suffolk C.C. County Architect, Ipswich. Dep. £1 1s.

Rye. — Enlargement. — Of Hartismere R.D.C. offices, for East Suffolk C.C. County Architect, Ipswich. Dep. £1 1s.

Stourbridge. — Houses. — 68 three-bedroom non-parlour, and construction of new streets with foul and storm water sewers, manholes, etc., at Bridgnorth-rd. site, Wollaston, for T.C. Fredk. Woodward, B.E. and S. Dep. £3 3s. each contract.

***Walthamstow.** — Construction. — Of pavilion at Lloyd-park, for B.C. B.E. and S. Dep. £2 2s.

MAY 9.

Beckenham.—House.—For baths superintendent at public baths, Beckenham-rd., for T.C. B.E. and S. Dep. £2.

Gellygaer.—Construction.—Of swimming pool and incidental works, at The Park, Bargoed, for U.D.C. F. Read, S., Council Offices, Hengoed.

Clogher.—General Repairs.—To various cottages, for R.D.C. J. F. M'Crea, Clerk, Boardroom.

***Hendon.**—Erection.—Of maternity and child welfare centre and school clinic, Hartley-av., Mill Hill, for B.C. B.E. and S. Dep. £3 3s.

Leeds. — Bricklayers'. — Joiners' and plumbers' work at South Lodge, 2, Lane End-pl., Holbeck, for T.C. Walter Jones, Public Assistance Officer, 11, South-parade.

***Staffordshire.**—Alterations.—And additions to girls' high school, Uttoxeter, for C.C. Director of Education. Dep. £5 5s

Swansea.—Painting Work.—At University College. Edwin Drew, registrar, Singleton Park.

Totnes.—Houses.—8, and carrying out of incidental works at South Brent, for R.D.C. A. F. Steele, S., 26, High-st.

West Bromwich.—Houses.—96, on Friar Park estate, for T.C. D. Ellison, B.S.

Whitchurch.—Houses.—35, at Egerton-rd., for U.D.C. M. W. Sowden, S. Dep. £2 2s.

MAY 11.

Belfast.—Erection.—Of Church of St. Theresa de l'Enfant Jesus, at "Lisbreen," Somerton-rd., Fort william Park, for Rev. P. J. Black, B.A. McCarthy & Lilburn, chartered quantity surveyors, Scottish Provident-bldgs., Belfast. Dep. £3 3s.

Chichester. — Alterations. — And additions to secondary school for boys, for West Sussex C.C. C. G. Stillman, F.R.I.B.A. Dep. £2 2s.

Croydon.—Erection.—Of 2 houses and 64 flats and maisonnettes on Davidson-rd. site, for C.B. T.C. Dep. £2 2s.

***Fairwater.**—Erection.—Of ward block of 51 beds at Glan Ely hospital, for King Edward VII Welsh National Memorial Association. Secretary, Cardiff. Dep. £5 5s.

King's Lynn.—Foundation Work.—And addition to post office and telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

King's Lynn.—Erection.—Of 24 flats, 9 pairs of three/four-bedroom and 94 three-bedroom houses, for T.C. J. C. Matthew, B.S. Dep. £1 1s.

Kirkburton.—Wiring.—In extension to nurses' residence at Storthes Hall Mental Hospital, for West Riding Mental Hospitals Board. W. E. H. Burton, architect and engineer, Mental Hospital, Wakefield. Dep. £2 2s.

Kirkburton.—External Painting.—Of several buildings at Storthes Hall Mental Hospital, for West Riding Mental Hospitals Board. W. E. H. Burton, Assoc.M.Inst.C.E., architect and engineer, Mental Hospital, Wakefield.

Middlesex.—Draining.—Excavating, filling and laying-out school playing fields at Cranford Way, Marsh Farms estate, Twickenham, for C.C. Secretary to E.C., 10, Great George-st., S.W.1. Dep. £2 2s.

Newcastle-under-Lyme.—Houses.—One pair each at Loggerheads and Almington, for R.D.C. A. P. Lovatt, A.I.A.A., architect and S., 2, King-st. Dep. £1 1s.

Newcastle-upon-Tyne.—Cottages.—2, and alterations and additions to doctor's house at Barrasford Sanatorium, for T.C. City Architect, 18, Cloth-market.

Newcastle-upon-Tyne. — Extension. — Of existing pump house, etc., at general hospital, for T.C. City Architect, 18, Cloth-market. Dep. £1.

Newmarket.—External Painting.—Of 122 cottages at 10 sites, for R.D.C. A. E. Austin, S., Park-la.

***Northamptonshire.**—Detached Hospital Building. —To accommodate 20 beds at Rushden House Sanatorium, for C.C. County Architect, County Offices, Guildhall-rd., Northampton.

Peebles.—Reconstruction.—Of high school buildings to form technical department, and new buildings to form post primary department, for C.C. Reid & Forbes, architects, 17, Great Stuart-st., Edinburgh.

Purley. — Extensions. — To Council offices, for U.D.C. F. S. Henniker, Adelphi Terrace House, London, W.C.2.

***Sanderstead.**—Supply.—And laying of terrazzo paving and wall linings, etc., at fire sub-station, for Coulsdon and Purley U.D.C. S. Dep. £1 1s.

Southwick.—Erection.—Of caretaker's cottage, at senior girls' school, for West Sussex C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £1 1s.

Stevenage.—Convenience.—For U.D.C. Reg. A. Gandy, E. and S. Dep. £2 2s.

West Chiltington.—Erection.—Of cottage for West Sussex C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £1 1s.

Worthing.—Erection.—Of home for blind and occupation centre for mentally defective children, for West Sussex C.C. C. G. Stillman, F.R.I.B.A., Chichester. Dep. £2 2s.

MAY 12.

Arbroath.—Erection.—Of combined employment exchange and telephone exchange at Milgate Loan, for H.M.O.W. Architect, H.M. Office of Works, 122, George-st., Edinburgh. Dep. £1 1s.

Brighton—Houses.—200, on East Moulsecoomb (Hodshrove) estate, for C.B. Housing Committee. B.E. and S. Dep. £2 2s.

Brighton.—Houses.—144, on East Moulsecoomb (Hodshrove) estate, for C.B. Health Committee. B.E. and S. Dep. £2 2s.

Buntingford. — Alterations.—And additions to police station, for Hertfordshire C.C. County Surveyor, Hatfield. Dep. £2 2s.

Failsworth.—Supply.—Of approx. 900 lin. yds. of chestnut fencing, including gates, for U.D.C. J. W. E. Brown, S.

Glastonbury.—Improvement.—At Market-yard, for T.C. R. O. Winfield, B.S., High-st.

London.—Internal Painting.—At Metropolitan telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Lymington.—Construction.—Of concrete sea wall and lengthening of 5 groynes at Milford-on-Sea, for T.C. B.E. Dep. £2 2s.

Maldon.—Additions.—And alterations to senior school, for Essex C.C. J. Stuart, F.R.I.B.A., Chelmsford. Dep. £2 2s.

Maldon.—Additions.—And alterations to junior school and erection of caretaker's house, for Essex C.C. J. Stuart, F.R.I.B.A., Chelmsford. Dep. £2 2s.

Malmesbury.—Houses.—14, and concrete road at Athelstan-rd., Malmesbury, for T.C. Walter Rudman, M.C., F.R.I.B.A., chartered architect, 32, Market-pl., Chippenham. Dep. £2 2s.

Manchester. — Conveniences. — At Willert-st. recreation ground, for T.C. City Architect. Dep. £1 1s.

Manchester.—Conveniences.—At St. John's Churchyard (Deansgate) recreation ground, for T.C. City Architect. Dep. £1 1s.

Nr. Sheffield.—Painting.—At Swallownest hospital, for South Rotherham and Kiveton Park District Isolation Hospital Committee. Allan H. Styring, clerk, 6, North Church-st., Sheffield.

Nottingham.—Fencing.—And gate piers, etc., to Bilborough school site, for T.C. R. M. Finch, City E. and S. Dep. £1.

***Oldham.**—Construction.—Of public conveniences at West-st., for C.B. B.E. and S. Dep. £1 1s.

Rahara (Co. Roscommon).—School.—For Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1.

***Stafford.** — Erection. — Of school clinic in Lammascote-rd., for C.C. Director of Education. Dep. £4 4s.

Stoke-on-Trent.—Repairs.—To three houses in Hanley, for T.C. Chief Sanitary Inspector, St. Peter's-chams., Glebe-st.

MAY 13.

Atherton.—Houses.—86, on Hag Fold site, for U.D.C. S. Dep. £2 2s.

Bedford. — Installation. — Of hot-water, heating and supply at school, at Harrold, for C.C. County Surveyor. Dep. £1 1s.

Brighton.—Erection.—Of cattle and sheep lairs at public abattoir, Hollingdean-rd., for T.C. B.E. and S. Dep. £2 2s.

Eccles.—Dressing-rooms.—At Cleavley Farm playing fields, Winton, for T.C. B.E. and S. Dep. £1 1s.

MAY 14.

Belfast.—School.—Erection of Beechfield public elementary school, for C.B. Education Architect, Victoria-st. Dep. £2 2s.

Folkestone.—Erection.—Of employment exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Menston, near Leeds.—Erection.—Of timber-framed workroom at West Riding Mental Hospital, for Mental Hospitals Board. W. E. H. Burton, Architect and Engineer to the Board, Mental Hospital, Wakefield.

Wood Green.—Extension.—And modernisation of West-rd. Baths, for B.C. T.C. Dep. £2 2s.

MAY 15.

Birkenhead.—Houses.—163, for C.B. B.E. and S. Dep. £2 2s.

Cardiff.—Houses.—12, at Bronllwyn, Pentyrch, near Cardiff, for R.D.C. William Farrow, S., Park House, 20, Park-place. Dep. £3 3s.

Dublin.—Houses.—206 3-room and 69 4-room, on Crumlin housing area, for T.C. Housing Architect. Dep. £5 5s.

Durham.—Alterations.—And improvements to Howden-le-Wear school, for C.C. F. Willey, F.R.I.B.A., architect, 34, Old Elvet, Durham.

Hertfordshire.—Erection.—Of practical instruction centre in Blindman's-ln., Cheshunt, for C.C. A. E. Prescott, County Surveyor and Architect. Dep. £2 2s.

MAY 16.

Edinburgh.—Extension.—Of workshops at Newington House, for Scottish National Institution for Blinded Sailors and Soldiers. J. L. Hill, Dougal & Co., 18, Hill-st., Edinburgh.

***Stamford.**—Houses.—36, on Cemetery-rd. site, for T.C. B.E. Dep. £2 2s.

MAY 18.

Brentford and Chiswick.—Reconstruction.—Of second section of glazed roof, at Brentford Market, High-rd., Chiswick, for T.C. L. A. Cooper, B.E. and S., Town Hall, Chiswick, W.4. Dep. £2 2s.

Coatbridge.—Baths.—Swimming pond and public health offices, for T.C. Alexander S. Thom, T.C. Dep. £2 2s.

Hampton.—Painting Works.—At Rose Hill estate and Dean Cottages, Hanworth-rd., for U.D.C. S. H. Chambers, S., Public Offices.

Herne Bay.—Houses.—14, in Sea-st.; for U.D.C. B. J. Wormleighton, Architect and S. Dep. £1 1s.

Manchester.—House.—At Helmside, Kendal, for Waterworks Committee. Chief E., Waterworks Offices, Town Hall. Dep. £1 1s.

Plymouth.—Alterations.—To Mutley Plain branch post office, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Porthcawl. — Extensions. — And alterations to Seabank Hotel, for A. J. Pope. E. J. E. Moore, A.R.I.B.A., Lias-rd. Dep. £5 5s.

***Richmond (Surrey).**—Erection.—Of convenience and shelter (2 buildings) in Raleigh-gdns., Windham-rd., for B.C. B.E. Dep. £1 1s.

Walsall and West Bromwich.—Electrical Installation.—At extensions, Barr Colony, for Joint Board. Edwards & Shaw, consulting engineers, 105, Colmore-row, Birmingham, 3. Dep. £3 3s.

***Walthamstow.**—Construction.—Of pavilion and groundsman's house at Low Hall Farm sports ground, for B.C. B.E. and S. Dep. £2 2s.

Winchester. — Demolition. — Of main chimney stack at Corporation generating station, Gordon-rd., for Electricity Authority. City Electrical E., Gordon-rd.

MAY 19.

Ashton-under-Lyne.—Employment Exchange.—For H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Brentford.—Conversion.—Of Carville Hall, Great West-rd., into 4 flats, for B.C. B.E. and S. Dep. £2 2s.

Chichester.—Houses.—48, on Portfield House site, Oving-rd., for T.C. F. C. Nash, City Sanitary Inspector. Dep. £1.

Northumberland.—Houses.—And outbuildings at Stannington, Whalton and Wylam, for C.C. County Land Agent, County Hall, Newcastle-on-Tyne. Dep. £2 2s.

Rowley Regis.—Painting.—And renovating exterior of Macefields senior girls' school, Mace-st., Old Hill, and central school, Wright's-la., Old Hill, for T.C. Education Officer, Lawrence-la., Old Hill, Staffs.

Wicklow.—Houses.—120, at Ballynerrin, Lower Castle-st. and Upper Monkton-row, for U.D.C. John McGrath, T.C. Dep. £10 10s.

MAY 20.

***Guildford.**—Houses.—164, on Westborough estate, for C.B. B.S. Dep. £2 2s.

Hampton.—Painting.—External, at public offices; sewage disposal works, Hanworth-rd., and fire station, Thames-st., for U.D.C. S. H. Chambers, S.

***Stepney.**—Erection.—Of 17 dwellings on Old Gravel-ln., for B.C. B.E. and S. Dep. £5.

Trowbridge.—Exterior Painting.—Of properties at Pitman-av., Studley Rise and Charlotte-st., for U.D.C. G. W. J. Clark, S.

***Willesden.**—Extension.—Of Dudden Hill school and additions to Mora-rd. school, for B.C. F. E. Wilkinson, architect, Dyne-rd., Kilburn. Dep £10 10s.

MAY 23.

Rugby.—Houses.—4, at Newton, and 4, at Princethorpe, for R.D.C. W. E. B. Bunker, S. Dep. £2 2s.

MAY 25.

***Rowley Regis.**—Houses.—560, on various estates, for T.C. T.C. Dep. £2 2s.

MAY 26.

***Hounslow.**—Extension.—Of Wellington junior school, Sutton-ln., for Heston and Isleworth B.C. B.S. Dep. £1 1s.

MAY 27.

Barnsley.—Provision.—And erection of about 346 yds. of wrought iron boundary fencing on concrete base wall, with appurtenant works; also erection of porter's lodge at municipal hospital, Pogmoor-rd., for T.C. B.E. Dep. £2 2s.

MAY 28.

***London.**—Erection.—Of municipal offices and town hall, for Poplar B.C. T.C. Dep. £5 5s.

London.—Painting.—Certain lighthouses around coasts of England and Wales, for Corporation of Trinity House. Secretary, Trinity House, Tower-hill, E.C.3.

MAY 29.

***Haywards Heath.**—Erection.—Of admission hospital, for Brighton C.B. T.C. Dep. £3 3s.

JULY 1.

London.—Erection.—Of offices and/or flats over 297-301, Bethnal Green High-rd. for use as rating and registrars' offices, for Wandsworth B.C. T.C.

NO DATE.

Ballymacquirk.—House.—For J. O'Connell. W. H. Bolster, architect, Kanturk. Dep. £1 1s.

Broxburn.—Cinema.—For Broxburn Enterprises, Ltd. A. D. Haxton, L.R.I.B.A., architect, Leven. Dep. £1.

Holland (Lincs).—Repairs.—And painting at Welby's Farm, Spalding; Shillaker's Farm, North Drove Bank; Royce's Farm, Pinchbeck, and Toft Farm, Wrangle, for the Smallholdings Committee of C.C. E. J. A. Christie, F.L.A.S., County Land Agent, Boston.

MATERIALS, etc.

MAY 4.

Cranbrook.—Broken Ragstone.—And best hard rag border stone, for R.D.C. Captain E. R. Lewis, S., High-st.

Ulverston.—Materials.—For U.D.C. S.

MAY 6.

Huntingdon.—Broken Granite.—For T.C. B.S.

Northfleet. — Broken Kentish Ragstone. — For U.D.C. F. W. Jones, Clerk.

Skegness.—Stoneware Goods.—For U.D.C. R. H. Jenkins, M.Inst.M., E. and S.

MAY 7.

Surbiton.—Artificial Slab Paving.—And concrete kerb, for U.D.C. S.

MAY 11.

Horsham.—Pea Gravel.—And granite chippings, for U.D.C. C. G. Atkinson, E. and S., Council Offices, Horsham Park.

MAY 12.

Stretford.—Granite Sett.—For T.C. E. Parker, B.S. Dep. £2 2s.

MAY 20.

Poplar.—Building Sand.—For B.C. H. E. Dennis, T.C., Poplar High-st., E.14.

ENGINEERING, IRON AND STEEL.

MAY 4.

Audenshaw.—Engineering Work.—In connection with reconstruction of Ashton Hill-ln. bridge, for U.D.C. C. S. Allot & Son, engineers, 1, North-parade, Manchester, 3. Dep. £2 2s.

Cheshire.—Widening.—Of Hogg's Bridge, carrying Congleton-Buxton-rd., over Lower Daneinshaw Brook at Buglawton, for C.C. G. E. Ashforth, C.S. and Bridgemaster, Watergate House, Watergate-st., Chester. Dep. £2 2s.

Cheshire.—Widening.—Of culvert carrying Chester-Whitchurch-rd. over Grindley Brook, for C.C. G. E. Ashforth, C.S., Watergate House, Watergate-st., Chester. Dep. £2 2s.

Exeter.—Construction.—Of 2 reinforced concrete reservoirs, for T.C. R. H. Dymond, City E. and S. Dep. £5.

MAY 5.

Taunton.—Construction.—Of reservoir, pumping station, hydrostat house and providing and laying of approx. 5½ miles of mains, together with all fittings and works auxiliary thereto, at Lydeard St. Lawrence and Combe Florey, for R.D.C. Parker Pearson & Ross Hooper, engineers, Dallas-chams., Chippenham. Dep. £1.

MAY 6.

Dover. — Engineering. — Services at institution, for Kent C.C. County Architect, Maidstone. Dep. £5 5s.

MAY 11.

Lancashire. — Widening. — Of Simpson Clough bridge, for C.C. County S. and Bridgemaster, County Offices, Preston.

Roxburghshire.—Construction.—Of bridge over River Teviot at Tienside, for C.C. Blyth & Blyth, civil engineers, 136, George-st., Edinburgh. Dep. £5 5s.

MAY 13.

Carlisle.—Steel Framed Hangars.—At Aerodrome, for T.C. Fredk. G. Webster, T.C.

MAY 18.

Johannesburg.—Structural Steelwork.—For construction of 30 ft. goods shed. Department of Overseas Trade, 35, Old Queen-st., London, S.W.1. Ref. T.Y. 5833.

MAY 21.

Deal.—Renewing.—Steel girders, ties, braces, etc., and wood decking at pier, for T.C. T. C. Golder, B.E. and S., Queen-st. Dep. £2 2s.

MAY 22.

Torquay.—Building.—Of Fernworthy reservoir, for T.C. Edward Sandeman, Consulting E., 15, Victoria-st., Westminster, S.W.1. Dep. £10 10s.

JUNE 6.

Meghna Bridge.—Steelwork.—3,400 tons for Meghna Bridge, for Assam-Bengal Rlwy. Co., Ltd., 56, Victoria-st., London, S.W.1. Charge £2 2s.

ROAD, SEWERAGE AND WATER WORKS.

MAY 4.

Bedford.—Construction.—Of foul water sewer and appurtenant works at Queen's Park and Midland-rd., for T.C. B.E. and S. Dep. £5.

Bedlingtonshire. — Making-up. — In concrete of various streets, for U.D.C. J. W. Pooley, S., Council Offices, Bedlington. Dep. £1 1s.

Exeter.—Lay-out.—Aerodrome at Honiton Clyst, for T.C. R. H. Dymond, City E. and S. Dep. £5.

Hendon.—Making-up.—Of various streets, for T.C. A. O. Knight, B.E. and S., Town Hall, Hendon, N.W.4. Dep. £4.

Hornsea.—Surface Dressing.—Of highways, for U.D.C. E. and S. Dep. £1.

Portsmouth.—Sewering.—And making-up, for T.C. Joseph Parkin, City E. Dep. £2 2s.

MAY 5.

Dublin.—Laying.—Of concrete and asphalt road surfaces at St. Kevin's hospital, James's-st., for Board of Assistance. J. J. Winters, Consulting E., 27, Molesworth-st. Dep. £5 5s.

Northwich.—Street Works.—In connection with Comberbach and Weaverham housing scheme, for R.D.C. J. Birtwistle, S., Whitehall, Hartford. Dep. £2 2s.

Worthing.—Laying.—Of 10 ft. reinforced concrete road with kerb and stormwater disposal works around The Square and 3 ft. wide concrete paths to houses at housing estate, Addison-sq., Lancing, for R.D.C. S., Dep. £2 2s.

MAY 6.

Hebburn.—Diversion.—Of road at junction of School-st. and High-ln.-row, for U.D.C. E. Dep. £3 3s.

Hebburn.—Making-up.—Of 4 roads, for U.D.C. E. Dep. £3 3s.

MAY 7.

Eastbourne.—Water Supply.—To Downs Farm, for T.C. B.E.

Gravesend.—Stoneware Pipes.—For B.C. H. H. Brown, T.C., 4, Woodville-terr.

MAY 8.

Southampton.—Construction.—Of 320 lin. yds. of sewers 33 in. dia., with manholes, at Millbrook Marsh, for T.C. Borough E. Dep. £2 2s.

MAY 9.

Beckenham.—Artificial Stone Paving.—For B.C. H. Storr Best, B.E. Dep. £2.

Orpington.—Making-up.—Of The Drive, for U.D.C. Thomas Watson, E. and S. Dep. £3 3s.

MAY 11.

Boston.—Laying.—Of about 176 miles of water mains, for R.D.C. V. A. C. Durand, Consulting E., 15, Market-pl. Dep. £5 5s.

Brierley.—Concrete Pipes.—For U.D.C. R. H. J. Comber, S., Albion-st.

Chester.—Reconstruction.—Of Sealand-rd., for T.C. Charles Greenwood, City E. and S., Municipal Offices, 43, Northgate-st. Dep. £2 2s.

Middlesex.—Repairing.—And tarpaving school playgrounds, for C.C. Secretary, to E.C., 10, Great George-st., S.W.1. Dep. £2 2s.

Royton.—Sewering.—And making-up of various streets and passages, for U.D.C. E. and S. Dep. £1 10s.

St. Albans.—Construction.—Of stoneware and concrete pipe sewers, St. Julians Hill, Watling-st., for T.C. F. T. Negus, City E. and S., 38, St. Peter's-st. Dep. £2 2s.

Totnes. — Construction. — And maintenance of asbestos cement water main, spun-iron water mains, reservoir and valves, fittings and incidental works in Harberton, for R.D.C. Lemon & Blizard, consulting engineers, 24, Lockyer-st., Plymouth. Dep. £3 3s.

MAY 12.

Aldridge.—Construction.—Of approx. 7,000 lin. yds. of sewers and incidental works, for U.D.C. A. H. S. Waters, 25, Temple-row, Birmingham, 2. Dep. £5 5s.

Doncaster.—Construction.—Of roads and sewers on Wheatley Park estate, for T.C. R. E. Ford, Estates S., 3, Priory-pl.

Failsworth.—Making-up.—Of various streets, for U.D.C. J. W. E. Brown, S. Dep. £1 1s.

Irthlingborough.—Construction.—Of 200 yds. of 9 in. perforated stoneware drain at waterworks, Station-rd., for U.D.C. E. Turnbull, S.

Kidderminster.—Surface Water Drainage.—At Sutton Common and Foley Park, for T.C. J. Hawcroft, B.E. and S., 110, Mill-st. Dep. £2 2s.

Oldham.—Tarspraying.—And gritting of various roads, for T.C. B.E. and S.

Stretford.—Repaving.—On certain roads, for T.C. E. Parker, B.S. Dep. £2 2s.

MAY 13.

Bexley.—Making-up.—Of various roads, for U.D.C. G. A. Joy, S. Dep. £2 2s.

Erith.—Laying-out.—Of 2 recreation grounds, for U.D.C. John H. Clayton, E. and S. Dep. £1 1s.

Great Berkhampstead.—Construction.—Of main and branch sewers at Berkhamsted, for U.D.C. J. R. Hadfield, S. Dep. £2 2s.

Stoke-on-Trent.—Construction.—Of approx. 1,500 yds. of 42-in. and 48-in. dia. and 1,300 yds. of 21-in. dia. cast-iron pipe sewer in connection with Trent Vale outfall sewer, for T.C. City E. and S. Dep. £5.

Surbiton.—Supplying.—And laying various asphalt surfacings in certain roads, for U.D.C. R. Thirlway, E. and S., Ewell-rd. Dep. £2 2s.

MAY 14.

Newquay.—Levelling.—Paving, metalling, kerbing, channelling and other works in construction of Mayfield-rd., for U.D.C. S. Dep. £3 3s.

Newton Ferrers.—Making-up.—Of Court-rd., for Plympton St Mary R.D.C. E., Council Offices, Plympton. Dep. £2 2s.

Northfleet.—Construction.—Of tar macadam paths and drives, in Wombwell Park, for U.D.C. S.

Oxford.—Making-up.—Of Staunton-rd., Headington, and part of Ferry Hinksey-rd., for T.C. J. F. Richardson, City E. and S. Dep. £2.

MAY 16.

Harrow.—Making-up.—Of various streets, for U.D.C. H. W. Rackham, S., Stanmore. Dep. £3 3s.

Lytham St. Annes.—Concrete Edging.—For T.C. B.S.

Ripon.—Construction.—Of extension to sewage disposal works, for T.C. City S. Dep. £5.

Romford—Widening—And reconstruction of North-st., for 170 yds., for U.D.C. E. and S., 110, Market-pl. Dep. £2 2s.

Urmston—Making-up.—Of various streets, for U.D.C. E. L. Leeming, E. and S., Crofts Bank-rd. Dep. £2 2s

MAY 18.

Billericay.—Construction.—Of foul and surface-water sewers, concrete strip roads, levelling of verges, and incidental works in four streets on Manor House estate, Laindon, for U.D.C. H. B. Mayhew, S. Dep. £2 2s.

Chelmsford.—Construction.—Of approx. 357 lin. yds. 9 in. dia. and approx. 243 lin. yds. of 12 in. dia. stoneware pipe soil sewer, with manholes, etc., for T.C. V. J. Willis, B.E. and S. Dep. £2 2s.

Ilford.—Reforming.—And resurfacing to certain footpath verges, for T.C. L. E. J. Reynolds, B.E. Dep. £1 1s.

Staffordshire.—Widening.—Of Stafford to Wolverhampton-rd., for C.C. C.S., County-bldgs., Stafford. Dep. £5.

MAY 20.

Stockport.—Construction.—Of River Mersey-rd., for T.C. B.E. and S. Dep. £5.

Public Appointments

MAY 4.

Bournemouth. — Quantity Surveyor's Assistant (Temp.).—For C.B. B.E.

Bournemouth.—Architectural Assistant (Temp.). —For C.B. B.E.

Chester.—Two Clerks of Works (Temp.).—For T.C. City E. and S.

Chester. — Senior Architectural Assistant.—For C.C. E. and S.

Leicester.—Clerk of Works.—For T.C. Director of Education.

Leicester. — Junior Architectural Assistant.—For T.C. Director of Education.

Leicester. — Assistant. — For T.C. Director of Education.

Wakefield. — Junior Architectural Assistant.—For C.C. of West Riding of Yorkshire. Education Officer.

Wakefield.—Junior Quantity Surveying Assistant. —For West Riding of Yorkshire C.C. Education Officer.

***Willesden.**—Architectural Assistant (Temp.).—For B.C. T.C.

MAY 6.

Kesteven. — Architectural Assistant.—For C.C. Clerk.

MAY 8.

Southend-on-Sea. — Second-class Quantity Surveying Assistant.—For C.B. B.E.

MAY 9.

***Wigan.**—Architectural Assistant.—For C.B. B.E.

MAY 11.

***Northwood.**—Building Inspector (Temp.).—For Ruislip-Northwood U.D.C. E. and S.

***Northwood.**—Engineering Assistant (Temp.).—For Ruislip-Northwood U.D.C. E. and S.

MAY 12.

***Manchester.**—Architectural Assistant.—For T.C. Housing Director.

MAY 16.

***Leeds.**—Assistant Master at Junior Technical School.—For T.C. Director of Education.

Surrey.—Quantity Surveyor.—For C.C. Chief Education Officer, Kingston-upon-Thames.

MAY 23.

***Norfolk.**—Consulting Engineer.—For T.C. T.C.

NO DATE.

***London.**—Surveyor's Clerk.—For Air Ministry. Secretary (W.B.9, Room 161), Adastral House, W.C.2.

***London.** — Architectural and Engineering Assistants.—For Air Ministry. Secretary (W.B.9, Room 161).

***London.**—Assistant Quantity Surveyors.—For Air Ministry. Secretary (W.B.9), Room 161.

***London.**—Heating Assistants.—For Air Ministry. Secretary (W.B.9).

***London.**—Clerks of Works.—For Air Ministry. Secretary (W.B.9), Room 161.

***Somerset.** — Assistant Quantity Surveyors (Temp.).—For C.C. A. J. Toomer, County Architect, Taunton.

BRITISH STANDARD SPECIFICATION

FLEXIBLE METALLIC TUBING FOR PORTABLE GAS APPLIANCES.

THE British Standards Institution has recently issued a new British Standard Specification for "Flexible Metallic Tubing and Connectors for Portable Gas Appliances." This has been prepared primarily from the standpoint of ensuring the availability of an easily distinguishable, sound, and satisfactory tube. Metal screwed ends have been adopted to ensure the maximum safety in use. The dimensions of the connector ends and tubes have been standardised in order to ensure satisfactory interchangeability and to facilitate connection and interchangeability between the control tap and the appliance. In addition to the mechanical requirements of the assembled tubing, appropriate qualities of rubber have been specified for the connector sleeves and the rubber thread between the coils forming the tubing. Copies (No. 669-1936) can be obtained from the Publications Department, British Standards Institution, 28, Victoria Street, London, S.W.1., price 2s. 2d. post free.

CURRENT & PROPOSED BUILDING WORK*

Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; B.S. for Borough Surveyor; B.E. for Borough Engineer; D.S. for District Surveyor; C. for Clerk; T.C. for Town Clerk; C.E. for County Engineer; C.S. for County Surveyor; S. for Surveyor; E. for Engineer.

Adel.—Plans approved and licence granted for hotel, junction of Harrogate-Wetherby by-pass with Leeds-Otley roads, for F. Thompson. Premises to be styled "Parkway" hotel. Architect, D. C. Maynard. Tenders are to be invited.

Barnes.—T.C. approved: Dressing and changing rooms, etc., at Mill Lodge, Harrodian Sports Club, Lonsdale-rd., Harrods, Ltd.; 5 shops with living accommodation over, at St. Anne's estate, Upper Richmond-rd., Couch & Coupland, in conjunction with E. R. Taylor, for Evelyn Property Investment Co.

Beddington and Wallington.—U.D.C. to proceed with bridge over railway at Bridge-rd. to Clarendon-rd.—Letter received from G. Miller & Son, Mitcham, stating that they had received inquiries as to sale of land owned by them off Millgreen-rd. for factory purposes and houses.—S. submitted plans for extension of Elmwood estate by 88 houses.

Birstall.—Parish church to be extended, at £10,000.

Bramley (W. Yorks).—Tenders invited for additions to foundry and workshops, for Turner Tanning Co., Ltd. Plans by Kirk & Tomlinson, architects, Leeds. Quantities by —. Cheeseman, quantity surveyor, Leeds.

Bridlington.—Plans for hall on North Side been approved by T.C.

Brierley Hill.—U.D.C. purchasing land at Quarry Bank for housing purposes. Architect, E. W. Turner.

Bristol.—Sanction to borrow approx. £60,000 for housing developments has been given by T.C. to Housing Committee.—The Salvation Army to erect citadel in Padstowe-rd., Knowle.—T.C. approved plans for block of flats on site formerly occupied by Chesterfield Nursing Home in Queen's-rd., Clifton. Alec F. French, L.R.I.B.A., 3, Unity-st.

Cardiff.—Electricity sub-station to be built at the Edward Nicholl Home, Penylan.

Carlisle.—Alternative schemes to be prepared by City E., 18, Fisher-st., for development of old gas works site as car park, and for storage purposes for electricity undertaking.

Chesterfield.—T.C. approved: Rebuilding "Blue Bell" inn, junction of Cavendish-st. and Saltergate, Mansfield Brewery Co., Ltd.; new central premises, Elder-way and Knifesmith-gate, for Chesterfield and District Co-operative Society, Ltd.; 26 houses, Baden Powell-rd., for Clarke Bros.; extension to cellulose department, Walton Works, for Robinson & Sons, Ltd.

Chester-le-Street.—U.D.C. to ask M.H. to sanction to £17,500 for 50 houses at Chester Moor.

Clitheroe.—T.C. to apply to M.H. for £11,908 for 26 houses and 6 bungalows on Edisford-rd. housing estate.

Coventry.—Electricity Committee of T.C. recommend application to Electricity Commissioners for extension of Longford generating station and borrowing of £266,100.—Estates and Parliamentary Committee recommend application to M.H. for formal consent to appropriation of land at Radford for purposes of housing Acts.

Croydon.—Petition been presented to C.B. by residents of Addiscombe for public swimming bath, corner of Morland-rd. and Lower Addiscombe-rd.—Electricity Commissioners sanctioned borrowing of £7,750 for switch house extension building, and £6,458 for buildings, civil engineering works and concrete cooling tower.—M.H. sanctioned borrowing £14,067, houses, Crown Hill, Upper Norwood; £20,837, Beddington sewage works; £7,850 for staff accommodation extensions, Borough Hospital.—Plans passed:—Acme Button Manufacturing Co., Ltd., office addition, works, Gloucester-rd.; Bata Shoe Co., Ltd., East Tilbury, addition, 71, High-st., S.E.25, South Norwood; South Suburban Co-operative Society, Ltd., 99, London-rd., addition, Portland-rd., at stores, South Norwood; Croydon & South London Building Co., Ltd., 116a, Bensham-la., 18 houses, Harrington-rd. and Love-la., Woodside; Borough Electrical Engineer, switch house addition, Factory-la., Waddon; Corporation, alterations and additions to administrative block, Borough Fever hospital, Waddon; H. G. Palmer, Waddon Court Estate Office, Croydon-rd., 23 houses and 22 garages, Nos. 66-110, The Ridgeway, Waddon; Burcote, Ltd., Wickham-rd., 4 shops with rooms over, Wickham-rd.

Dagenham.—U.D.C. approved: J. Horn & Sons, 8 dwellings and garages, Whalebone-la. North; J. Harrington, 12 houses, Horace-av.; Ashtons Devel. Co., Ltd., 35 houses, Eastern-av.; D. James, 7 lock-up shops, Whalebone-la. South.

Darlington.—Corporation Markets Committee approved alterations to cattle market. Plans by E. Minors, B.E.

Devizes.—Plans being prepared by Wilts County Architect for block at Devizes and Pewsey Isolation Hospital.

Doncaster.—Co-operative Society propose branch, Old-rd.—E.C. propose additions, Oswin-av. Council school. Plans by H. A. Hickson, L.R.I.B.A., 51a, Hallgate.

Dorchester.—Alterations and additions, premises, Great Western-rd., Weymouth and District Co-operative Society, Ltd.; shops with maisonettes over, Trinity-st., North, Robin and Wilsdon.

Dudley.—T.C. propose 800 additional houses, Wren's Nest site.

Dukinfield.—B.S. to prepare plans for lay-out of 2 sites in Lodge-la. and Birch-la. for housing estates, for T.C.

Durham.—B. of E. approved pavilion at Spennymoor Four Lane Ends school. Plans by F. Willey, of C.C., 34, Old Elvet, Durham.—Improvements to ventilation and sanitation and provision of staff room and lavatory accommodation to be made at High Usworth Council school.—Revised plans prepared for additions to West Stanley Alderman Wood secondary school, for C.C. Architect, F. Willey.—At suggestion of B. of E. amended plans to be prepared for additions to Chester-le-Street secondary school, for E.C. Plans by County Architect.—Plans to be prepared for school at Horden, for E.C. Architect, F. Willey.—E.C. proposes senior school for boys at Wheatley Hill. Plans by F. Willey.

Faringdon.—Committee of Cottage Hospital decided on extension. Plans by S. M. Cadel.

Felling-on-Tyne.—Congregational Church to be erected near Heworth Miners' Lodge. Architect, C. S. Errington, Victoria-bldgs., Grainger-st. West, Newcastle-on-Tyne. No contracts let.

Gateshead.—Licensing Justices confirmed transference of licence from "Wagon" hotel, High-st., Gateshead, to new premises to be erected at Lobley Hill, for Newcastle Breweries, Ltd., Haymarket, Newcastle. Cost £7,600, and architects are J. Oswald & Son, 68, Northumberland-st., Newcastle. No contracts let.

Grangegorman.—Minister for Local Government recommends mental hospital under control of Grangegorman Mental Hospital Joint Committee, at £461,500.

Halifax.—T.C. appointed sub-committee to consider plans for baths on Clare Hall site.

Huddersfield.—Municipal hospital to be erected, Fleminghouse-ln., Waterloo, at £1,000.000.

Hull.—St. Mary's Church to be restored, at £5,500. E. Priestley Cooper, architect.

Jarrow-on-Tyne.—Special Areas Commissioner approved scheme of Tyne Improvement Commission, Newcastle, to construct a deep water quay at The Slakes at £1,350,000. R. F. Hindmarch, Bewick-st., Newcastle, is Tyne Commissioners' Engineer.

Kettering.—U.D.C. propose public conveniences, Ebenezer-pl., at £1,550.

Kidderminster.—Carpet Weavers' Association proposes offices, Callows-la.

Kirkburton.—U.D.C. propose 80 houses at Paddock.

Lancaster.—Lads' Club Trustees (secretary, H. H. Kellett) proposing headquarters, at £5,000.

Leeds.—Leeds and Wakefield Breweries, Ltd., Melbourne Brewery, propose hotel, Middleton-la., Thorpe Wood. Plans by J. Percy Firth, F.R.I.B.A., architect, 4, King-st., Wakefield. Contracts not placed.

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Leeds.—Corporation to build houses on Seacroft estate with frontages to main York-rd. for housing of aged persons. Plans by R. A. H. Livett, Director of Housing.

Leicester.—Housing Committee accepted tenders for 350 houses at £130,000.

Littleborough.—J. E. Stott, Todmorden, appointed architect for houses at shore, for U.D.C.

London (City).—City Corporation recommend regilding flames and urn of Monument, renewing all external paintwork and examining and repairing stonework under balcony, at £265.

London (Deptford).—B.C. approved: J. E. Allen & Co., 82a, Malpas-rd., garage building at 60a, Upper Brockley-rd.

London (Hackney).—B.C. recommend sub-stations in Stoke Newington High-st., 7-17, Clevedon-passage; land rear of 39, Clapton-common; junction of Chatsworth-rd. with Powerscroft-rd. and Millfields-rd.—Hindle-st. area to be dealt with as clearance area, 82 houses involved.—Council considering Selman-st. and Grove-la. as clearance areas.—Schemes sanctioned: Factory, 78, Southborough-rd.; flats at Craven-walk; rebuilding, 209, Dalston-la.; factory, Abbot-st.; building at rear 203-213, Mare-st.; alterations, "Crooked Billet" p.h., Upper Clapton-rd.; alterations, 293-295, Kingsland-rd.; flats, 11-21, Gasboyne-rd.—Drainage plans passed: Rebuild and drain "The Two Black Boys" p.h., 171, Well-st.; store and mess-rooms, Craven-wharf, Craven-walk; electricity sub-station, Hillman-st.; flats, Tudor-gr.; flats and shops, Chatsworth-rd., junction of Chatsworth-rd. and Powerscroft-rd.; bowling pavilion, Springfield-park.

London (Paddington).—B.C. approved block of flats, 147-151, Maida Vale.

London (Poplar).—B.C. approved additions to Princess of Wales p.h., 84, Manchester-rd., E.14, for Hoare & Co. Architect, S. C. Clark, 86, Fen-Church-st., E.C. No contracts placed.

Macclesfield.—Society of Salesian Fathers proposing new Church of St. John Bosco, with accommodation for 450 students, at Missionary College, Shrigley Park. Plans by P. Tilden, F.R.I.B.A., 39, St. James-st., London, S.W.1.—T.C. propose extensions of Isolation hospital, Moss-la. Plans by E. Hamson, B.S.—Centaur Hosiery Co., Ltd., Brook-st., propose to erect works in Pearson-st. Plans by J. Holt, A.R.I.B.A., architect, 49, Deansgate, Manchester. Tenders invited.

Madeley.—Lloyds Bank, Ltd., London, E.C.2, propose alterations to branch at Ironbridge. Plans by J. L. Harpur, L.R.I.B.A., "Aber-Coed," Dawley Brook-rd., Kingswinford. Contracts not placed.

Manchester.—Housing Committee approved plans for 244 flats, Miles Platting area. Cost, £142,374. Flats will be built adjoining Mellor-st., Naylor-st., Butler-st. and Oldham-rd.—Tenders invited for showrooms and offices, Old Tivoli Theatre site, in Peter-st. Architect, H. J. S. Abrams, 19, Buckingham-st., W.C.2.

Margate.—T.C. approved appointment of W. R. H. Gardner, L.R.I.B.A., as architect for new senior school for Westgate and Birchington.

Maryport.—U.D.C. to make application to M.H. for 28 houses on Ellenborough site.

Meriden.—R.D.C. approved plans for works, Coventry-rd., Allesley, for Rugby Autocar Co., Ltd. Architect, G. Cave, 7, Little Park-st., Coventry.

Middlesex.—E.C. recommend purchase of land in Cherry-la. and Sipson-rd. for elementary school.—Land for extension of Bourne Council school, Ruislip, to be purchased at Northolt Junction.—£750 to be spent on alterations, redecorations, etc., at Westminster House.—C.C. recommend: London-rd., Isleworth, reconstruction, Brentford boundary to Isleworth station, £26,250; London-rd., Isleworth, reconstruction, Bell P.H. to North-grove, £27,807; and Kingston-rd., reconstruction, Busch Corner to Percy-rd., £15,895.—£150 to be spent on fencing at Brickfield-la., Harlington.

Nelson.—T.C. propose 42 bungalows and 24 two-bedroomed houses, Swinton Hall farm and Regent-st., at £20,615. Plans by B.S.

Newcastle-on-Tyne.—A. & J. W. Potts, builders, City-rd., to erect warehouse and garage, City-rd., and Cut-bank.—Plans approved for houses on estate near Allendale-rd., known as Bird's Nest estate, for R. A. Gofton & Sons, builders, Pykerley-rd., Monkseaton, Whitley Bay. Architect, G. R. Holmes, 1, Priors-ter., Tynemouth.—Piling work about to be carried out by Spillers, Ltd., bakers, in connection with their £400,000 scheme for new flour mill on Quayside. Tenders invited. Plans by Dr. O. Faber, Romney House, Marsham-st., London, S.W.1.—Marshall & Tweedy, 129, Pilgrim-st., prepared plans for 24 houses, Bretton-gdns., for F. E. Maughan.—City Council to establish disinfection station near Merlay-rd. at £2,640.

Oldham.—T.C. approved:—Hawthorne and W. & H. Bloor, Ltd., 13 houses, Byrom-st. and Farrand-rd.; H. Partington & Sons, 41 houses, Cobden-st., Howard-st., Paulden-av. and Prahan-av., Waterhead.

Pwllheli.—Meeting of South Caernarvonshire farmers decided to establish butter factory in the Lleyn Peninsular.

Ravensworth Colliery.—Tenders invited by Miners' Welfare Committee for pithead baths. Plans by J. H. Forshaw, architect to Committee, Romney House, Marsham-st., London, S.W.1.

Rochdale.—Rev. D. Butcher and Parochial Council of St. George's propose church fronting Bury-rd., Oakenrod Hill. Robert Martin, F.R.I.B.A., Diocesan Surveyor, 90, Deansgate, Manchester. Cost £8,000.—E.C. propose extensions to technical school and erection of two nursery schools. Plans by S. H. Morgan, B.S.

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*See also List of Contracts open.

**** In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.**

Rotherham.—Board of Management of Rotherham Hospital are proposing alterations to kitchen, laundry, and additional staff accommodation, at £10,000.

Rushden.—U.D.C. approved: 20 bungalows, St. Margaret's-av., for M. M. Drabble, Ltd.

Salford.—H. S. Fairhurst & Son, F. & A.R.I.B.A., 55, Brown-st., Manchester, to prepare plans for improvements to Royal Hospital, Chapel-st., for Board of Management. Cost £20,000.

Scunthorpe.—U.D.C. propose buildings for Town Hall, etc.—L. H. Bond, architect, 11, Elmer-st., Grantham, been appointed for church, for Parochial Council of St. Hughes. Vicar, Rev. L. H. Howard, 1, Beauchief-garden, Old Brumby. Cost £9,000.

Settle.—West Riding E.C. to erect senior school to accommodate 280 children. Plans by H. Wormald, County Hall, Wakefield.

Skegness.—Lincolnshire Road Car Co., Ltd., Bracebridge Heath, Lincoln, propose omnibus station and garage in Drummond-rd. Montague A. Hall, F.R.I.B.A., architect, 28, Newland, Lincoln.

Slough.—T.C. approved: Salt Hill Construction, Ltd., 68 houses, off Bath-rd. (West); 24 houses, Westlands estate, Taplow; G. Wrightson-Ibbs, 74 houses, off London-rd., Langley.

Stoke-on-Trent.—P.A.C. approved scheme for maternity hospital at London-rd. Institution, at £69,000.

Solihull.—Land adjoining railway station, to be developed as building estate for 171 houses. H. Peter Hing, F.R.I.B.A., architect for Banks & Guest, estate agents, Birmingham.

Southampton.—C.B. approved: Gutteridge & Gutteridge, alterations and additions, "Anchor and Hope" public-house, Threefield-la. and Chandos-st., for Eldridge, Pope & Co.; H. J. Taylor, Ltd., shops and flats, Bridge-rd. and Portsmouth-rd., for Baring Investment Co., Ltd.; G. A. Jackson, news cinema, East Bargate, for East Bargate Development Co.; R. W. Small, convert house into two shops, offices and petrol station, 165, Bitterne-rd., for E. & K. Hallett; T. F. Ford, cinema, Bitterne-rd., for Bitterne Picture Theatre, Ltd.; Chilworth Estates Co., shops and flats, Portswood-rd. and Brookvale-rd., for A. H. Addis.

Southend-on-Sea.—C.B. approved: Seven shops with dwellings over, Ness-rd., Shoeburyness, W. J. Tibbles; eight shops and houses, Elmsleigh-dr., C. H. Hodgins; public hall, rear of Bungalow Tea Rooms, Victoria-av. (corner Fairfax-dr.), Mrs. Curtis; seven shops and maisonettes, Hamlet Court-rd., W. H. O. Ainslie; six houses, eight bungalows and four flats, Bournemouth Park-rd., E. E. Everitt; 24 houses, Aragon-close, F. Panther; 16 houses and six bungalows, Fairlawn-gdns., W. G. Sloman.

Stanton St. John.—Oxfordshire E.C. purchased site for Stowford school

Stockton-on-Tees.—Tenders to be obtained for sports pavilion at Gilpin Brown playing fields, for T.C. Plans by J. P. Wakeford, B.E.—Tenders about to be obtained for community hall, Eastbourne estate, for T.C. G. P. Stainsby, architect.

Stourbridge.—North Worcestershire Isolation Hospital Committee propose extensions to Hagley Green Hospital. Architect, H. E. Folkes, A.R.I.B.A., 34, Hagley-rd., Stourbridge.

Sutton Coldfield.—T.C. approved:—Premises, The Parade, for Montague Burton; petrol filling station, South-parade, for F. Arnold.

Swansea.—C.B. approved painting of 13 schools.—Borough Architect to prepare necessary plans and specifications and obtain tenders for 134 houses on Trewyddfa Common site.—Housing Committee recommend B.E. and S. be instructed to complete roads and sewers works necessary in connection with Townhill North No. 2 scheme.—Borough Architect submitted sketch plans for extensions to Technical College.—Plans passed: Warehouse, Gower-pl., Bristow Wadley & Co.

Swinton and Pendlebury.—Ralph, Son & Prond, L.R.I.B.A., Leader's-bldgs., King-st., Wigan, to prepare plans for extensions to Moorside Council school, Moorside-rd., for junior and infant department. H. C. Haworth, Wood-st., Bolton, appointed quantity surveyor for scheme.

Tanfield.—Sanction received by U.D.C. to £42,459 for houses at Tantobie by direct labour under supervision of S.

Taunton.—T.C. approved 16 houses, George-st. and Peter-st., for Miss Ethel Parker.

Thornaby-on-Tees.—Approval given by M.H. to T.C.'s public baths scheme to cost about £16,000. No contracts placed. Plans by B.E.—"Jolly Farmers' Hotel" to be rebuilt. Architects, J. Oswald & Son, 68, Northumberland-st., Newcastle-on-Tyne. No contracts placed.

Tottenham.—T.C. proposing convenience at Harringay and replacing convenience at junction of West Green-rd. and Philip-la.—Plans passed: —. Osborne, extension to showroom, 660, High-rd.; H. Robbins, alterations to showroom, 534, High-rd.; Kolok Manufacturing Co., Ltd., alterations to offices at factory, Tariff-rd.

Tyldesley.—U.D.C. propose repairs and improvements to 116 Council houses at Astley, at £2,263.

Tynemouth.—E.C. approved scheme for three new schools and number of gymnasiums.—It is proposed to erect church hall for Wesleyan Church in Coach-la., for Church Trustees. Plans by W. Stockdale, Howard-st., North Shields. No contracts let.

Upper Whitley.—U.D.C. propose 40 houses, Dumb Steeple site. Plans by S.

Urmston.—Bainbridge Bros., builders, Southgate, Flixton, near Manchester, propose 66 houses in Southgate and Boundary-rd. and Taunton-rd., Flixton.—Evans & Davies, builders, Chadwick-la., proposes 80 houses, off Chadwick-la.

Uttoxeter.—Staffordshire E.C. propose senior school for 280. Plans by Col. G. C. Lowbridge, L.R.I.B.A., County Education Architect, Stafford.

Walsall.—L. Dickinson, builder, Lower Foster-st., propose 41 houses, Walsall Wood-rd., Aldridge.—First National Housing Trust, Ltd., builders, Banner Cross Hall, Ecclesall-rd. South, Sheffield, propose 3,750 houses on Pheasey Farm estate, Great Barr.—J. H. Hickton, F.R.I.B.A., 4, St. Paul's-cl., architect for hotel in Wallows-la. for W. Butler & Co., Ltd., Springfield Brewery, Wolverhampton. Contracts not placed.—B.S. to prepare plans for technical college at Wisemoor and School-st.

Walthamstow.—T.C. to apply to M.H. for £5,620 for 14 houses, Forest-rd. site.—Sub-station proposed in St. James'-st.—Electricity Commissioners to consider £2,627 for building for town hall sub-station.—B. of E. approved £297 for adaptation work at Hale End open-air school.—Deputation to interview M.H. in connection with proposed isolation hospital accommodation.—£255 to be spent on new brick wall at Hale End-rd. open-air school.—Plans passed: Extension, Commercial Structures factory, Argall-av., Lea Bridge Factory estate; Canteen, L. Hyams' factory, Argall-av., Lea Bridge Factory estate.

Walton-le-Dale.—U.D.C. approved plans for 20 houses in Collins-rd., Bamber Bridge.

Washington.—Miners' Welfare and Colliery Co. to proceed with pithead baths and canteen at "F" pit. Plans by Architect's Dept. of Mines Section, and tenders will be invited.

Wembley.—Neasden Property Co., Ltd., propose 95 bungalows, 53 houses and 6 new streets, Kingsbury Rise estate, Wood-la.

Wellingborough.—U.D.C. approved: T. Giles, 28 houses and 4 bungalows, Brook Farm estate, Dury & Co., amended lay-out of estate off Northampton-rd.

West Bromwich.—West Bromwich Property & Investment Co., Ltd., propose 60 houses off Leighswood-rd., Aldridge.

West Hartlepool.—T.C. to spend £1,086 on pub'ic conveniences at Seaton Carew. Plans by B.E. been approved.

Weymouth.—A committee of the Council is to consider covered swimming bath.

Whitefield.—Joseph Holt, Ltd., Derby Brewery, Cheetham, Manchester, propose rebuilding "Eagle and Child" public-house, Higher-la. Architect, N. Hartley Hacking, 5, Blackfriars-st., Manchester.

Whitley Bay.—Plans prepared by H. Kaye, 26, Windsor-gdns., Monkseaton, for further houses, Seaton Grange estate, for H. Richardson.—U.D.C. approved widening Marden bridge and its approaches, at £30,000. A. J. Ronsell, S.

Wicklow.—U.D.C. have received approval of Minister for Local Government for erection of 120 houses.

Willenhall.—U.D.C. to apply to M.H. to borrow £18,000 for public baths and public hall.

Wimbledon.—T.C. to contribute £2,000 for reconstruction of railway arch, Raynes Park.

Woodford.—M.W.B. recommended £1,850 for demolition of 900-902, Forest-rd. and erection on site of pair of semi-detached houses.

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Wolverhampton.—T.C. approved: Licensed premises, Warstones-rd., Holt Brewery Co., Ltd.; new warehouse, Napier-rd., J. Baker & Sons; two houses, Cyprus-st., four houses, Chetwynd-rd., and 15 houses, new road off Goldthorn-rd., F. H. Farrer; reconstruction, "New Inn," Dudley-rd., W. Butler & Co., Ltd.; 28 houses, Linton-rd., Provincial Developments, Ltd.; 60 houses, Oxley Manor estate, Brookes & Edwards; 148 houses, Wednesfield-rd. Housing Committee.—Sanction given by M.H. for main loan of £108,977 for municipal assembly halls.—T.C. approved plans for 148 houses, Wednesfield-rd., for Housing Committee.

Woodley.—Woodley Memorial Recreation Ground Committee to erect village hall.

Worksop.—Frank Haslam, Ltd., building contractors, 3, Regent-st., Doncaster, prepared own plans for 160 houses, Carlton-rd.—T.C. propose public conveniences, Central-av.—North Notts Joint Hospital Board propose extensions to Isolation Hospital.

Workington.—Board of Management of Workington Infirmary proposing X-ray Department and massage block. Plans by H. Oldfield, L.R.I.B.A., 1, John-st. Tenders invited.

Wrexham.—T.C. approved plans for 36 houses in Prices-la. and Ashfield. B.S. to advertise for tenders as soon as plans been approved by M.H.

Yeovil.—T.C. agreed to build 128 houses and 12 flats, Larkhill site, at £48,590.

NEW CINEMAS

ABERDEEN.—A company, known as the North of Scotland News Theatres (Aberdeen), Ltd., has been formed for the purpose of erecting a newsreel theatre in Diamond-street.

BOLTON.—Messrs. P. Hamer, Ltd., of Manchester, have obtained the contract for the erection of a cinema at the junction of Ashburner-street and Black Horse-street, for Odeon Theatres, Ltd., of Birmingham. Mr. H. W. Weedon, A.R.I.B.A., 84, Colmore-row, Birmingham, is the architect.

BROUGHTY FERRY.—Messrs. J. Lyall and W. Bryce have acquired the new "Capitol" cinema. Extensive alterations are proposed. The architect is Mr. William Wilson, Broughty Ferry.

BROXBURN.—Messrs. Broxburn Enterprises, Ltd., propose the erection of a cinema. The architect is Mr. A. D. Haxton, L.R.I.B.A., Leven.

CHATHAM.—Associated British Cinemas, Ltd., 30, Golden-square, W.1, are to rebuild the "Regent," to seat 2,200. The company's architect is Mr. W. R. Glen.

GRIMSBY.—Associated Cinema Properties, Ltd., have purchased the Prince of Wales theatre and the Tivoli and Strand cinemas. The Prince of Wales theatre is to be pulled down and a cinema erected to seat 2,000.

HARROW.—In connection with a contract for a cinema at Harrow, referred to in our issue of April 24, Mr. J. Owen Bond, F.R.I.B.A., 26, Tombland, Norwich, the architect, states that no contract has yet been placed.

HUDDERSFIELD.—Mr. Roland Satchwell, L.R.I.B.A., 6, New-street, Birmingham, is to prepare plans for the reconstruction of the "Palace," which was recently burnt out.

LEICESTER.—The Knighton Cinema Co., Welford-road, have secured a site in Saffron-lane, for the erection of a cinema. Messrs. W. H. and H. G. Riley, F. & A.R.I.B.A., 25, Horsefair-street, are the architects.

MAYFAIR.—Westminster Corporation has approved in principle an application by Erica Beale, Ltd., 29, Chandos-court, Caxton-street, S.W., to develop the site of Nos. 14 and 15, Great Stanhope-street, by a theatre and flats. It is proposed to erect a small theatre, with facilities for showing films, and with a seating capacity of 500 persons, in the basement and portion of the ground floor. Flats are to be erected on the remainder of the ground floor and on the floors above.

SOUTHAMPTON.—Preliminary plans have been approved for a cinema in Bitterne-road and May Tree-road. The architect is Mr. T. F. Ford, F.R.I.B.A., 12, City-road, E.C.1.

WHITBY.—Alterations are to be carried out to the Coliseum, for Mr. A. F. Vasey. Plans are being prepared by Mr. A. E. Young, 3, Mayfield-road.

WORTHING.—Mr. A. T. W. Goldsmith, L.R.I.B.A., 8, Liverpool-gardens, Worthing, is preparing plans for the erection of a kinema in Findon-road, Worthing.

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Do. do., delivered on road waggons at above stations, per ft. cube	4 5½
White basebed, 3d. per ft. cube extra. NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average*, and ½d. beyond 30 ft.	
HOPTON-WOOD STONE— F.O.R. Quarries, Wirksworth, Derbyshire	s. d.
Random blocks from 10ft. and over P.ft.cb.	14 0
Sawn two sides	22 6
Sawn three or four sides	27 9
CHILMARK—RANDOM BLOCK— At Nine Elms, per ft. cube	3 11
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station London. 6 in. sawn two sides landings to sizes (under 30 ft. super) Per ft. super	5 6
6 in. rubbed two sides, ditto "	6 0
3in. sawn two sides slabs (random sizes) "	2 3½
2in. to 2½in. sawn one side slabs (random sizes) "	1 6½
1½ in. to 2in., ditto "	1 3½
HARD YORK— Delivered at any Goods Station, London. Scappled random blocks Per ft. cube	6 3
6-in. sawn two sides landings to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto "	6 1½
4in. sawn two sides slabs (random sizes) "	3 1½
3in. ditto ditto "	2 8
2in. self-faced random flags .. Per yd. super	7 6

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 7s. 6d.; Moulded, 8s. 6d. Sills, 10s. 0d.

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 × 11	£23 10	3 × 6	£18 10
4 × 9	22 10	3 × 11	19 10
4 × 8	21 0	2 × 11	19 10
4 × 7	19 0	3 × 9	19 10
3 × 8	17 10	2½ × 9	19 10
3 × 7	18 0	3 × 4½	17 10
2½ × 7	18 0	3 × 4	17 10

PLANED BOARDS.

1 × 11	£22 10	1 × 9	£21

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅜	16/-	1½	25/-
½	17/-	1½	31/6
1	19/-		

TONGUED AND GROOVED FLOORING

Inches.	per sq.
1	21/-
1½	26/-
1½	32/6

MATCHING (BEST).

Inches.	per sq.
⅝	16/-
¾	18/6
1	22/6

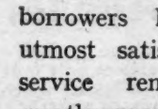
	s. d.
ins. BATTENS. ⅞ × 2 per 100 ft.	2 6
SAWN LATHS. Per bundle	2 3

HARD WOOD.

1 INCH AND UP THICK.

	£ s. d.
Average price for prime quality.	
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt.	4 7 0 to 5 10 0

HUDDERSFIELD Building Society



Experience has shown that the arrangements made by the Huddersfield to assist occupier borrowers have given the utmost satisfaction, and the service rendered has been greatly appreciated by builders' clients.

Write for the Folder "Mortgage Facilities" to The Huddersfield Building Society, Britannia House, 203, Strand, London, W.C.2, or to the Head Office, Britannia Buildings, Huddersfield. Andrew Stewart, C.A., Managing Director.

WHEN YOU INVEST—A HOUSE IS BEST!

SLATES

First quality slates from Bangor or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	29 15 0	18 by 10	15 12 6
22 by 12	25 0 0	18 by 9	13 15 0
22 by 11	22 10 0	16 by 10	13 10 0
20 by 12	22 0 0	16 by 8	10 7 6
20 by 10	19 7 6		

TILES

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£4 2 6
ditto hand-made ditto	4 10 0
Ornamental ditto	4 15 0
Hip and valley tiles (per dozen) Hand-made	0 8 6
Hip and valley tiles (per dozen) Machine-made	0 8 0

METALS

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£12 0 0
Plain Compound Girders	14 10 0
" Stanchions	16 10 0
In Roof Work	19 0 0

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter	£ s. d.	Diameter	£ s. d.
¼ in.	12 10 0	⅝ in. to ¼ in.	11 0 0
⅜ in.	11 10 0	½ in. to 2⅝ in.	10 15 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛in. to 6in. %	Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛in. to 6in. %	Standard Fittings Sizes ⅛ in. to 6in. %	Standard Flanges Sizes ⅛ in. to 6in. %
Gas	65	52½	57½	70
Water	61½	48½	52½	65
Steam	57½	45	47½	60
Galv.gas.	52½	40	47½	60
Galv.water	47½	35	42½	55
Galv.steam	42½	30	37½	50

C.I. HALF-ROUND GUTTERS—London Price ex Works

Per yd. in 6ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/5½	1/1½	4½d.
3½ in.	1/6¾	1/3	5½d.
4 in.	1/8¼	1/4½	6½d.
4½ in.	1/8	1/6½	9½d.
5 in.	1/10½	1/8½	10d.

O.G. GUTTERS.

3 in.	1/7½	1/5½	7d.
3½ in.	1/9½	1/5½	7½d.
4 in.	1/11	1/6½	8½d.
4½ in.	2/0	1/9½	9½d.
5 in.	2/4½	2/0½	11½d

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles, stock Branches, angles, stock angles.
2 in.	2/2½	1/4½ 2/0
2½ in.	2/3½	1/6½ 2/4½
3 in.	2/9½	1/11 2/10½
3½ in.	3/3½	2/3½ 3/3½
4 in.	3/9	2/9 4/0½

Less 20 per cent. trade discount.

Tonnage allowance—4-ton lots, 5 per cent. 2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock.

	Pipe. s. d.	Bends, stock angles, stock Branches, angles, stock angles. s. d.	s. d.
2in. per yd. in 6fts.	2 9½	2 0	2 5½
2½in. "	3 2	2 2½	3 0½
3 in. "	3 6	2 5½	3 7½
3½ in. "	3 9½	3 0½	4 2½
4 in. "	4 2½	3 4½	4 10½

L.C.C. COATED DRAIN PIPES.—London Prices ex Stock.

	Pipe. s. d.	Bends, stock angles, stock Branches angles, stock angles. s. d.	s. d.
3in. per yd. in 9ft. lengths	3 4½	4 3	7 0
cwt. qr. lbs.			
4in. " 1 1 20..	5 1	5 9	8 5
5in. " 1 2 22..	6 6	8 9	13 0
6in. " 2 0 6..	7 6	10 3	18 0

Gaskin for jointing 41/- per cwt.

Per ton in London.

IRON—	£ s. d.		£ s. d.
Common Bars	10 0 0	to	10 10 0
Staffordshire Crown Bars— Good merchant quality	11 0 0	to	11 10 0
Staffordshire Marked Bars	14 10 0	..	15 10 0
Mild Steel Bars	9 10 0	..	10 10 0
Steel Bars, Ferro-Concrete quality, basis price	9 0 0	..	9 10 0
Hoop iron, basis price	11 10 0	..	12 10 0
" Galvanised	28 0 0	..	29 0 0

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*contd.*).

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Soft Steel Sheets, Black—			
Ordinary sizes, to 20 g.	11 10 0	..	12 0 0
" " 24 g.	12 10 0	..	13 10 0
" " 26 g.	14 10 0	..	15 10 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	15 0 0	..	16 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.....	17 10 0	..	18 10 0
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	14 0 0	..	15 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g...	16 10 0	..	17 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	17 10 0	..	19 0 0
Sheets, Galvanised, Flat, Best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	15 10 0	..	17 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	16 0 0	..	18 0 0
Best Soft Steel Sheets, 26 g.	17 10 0	..	19 10 0
Cut Nails, 3 in. to 6 in.	16 10 0	..	18 0 0
(Under 3 in. usual trade extras.)			

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d
Seamless Copper tubes (basis)	per lb.	0 9
Strong sheet	"	0 10
Thin	"	0 11
Copper nails	"	1 0
Copper wire	"	0 11

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	200/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/-	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH GLASS CLEANING SCREW.

	1½ in.	1½ in.	2 in.	3 in.
3 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
3 lbs. S. traps	35/-	45/-	66/-	126/- per doz.

TIN.—English ingots, 2/6 per lb. SOLDER.—Plumbers', 1/1, Tinmen's 1/3, Blowpipe 1/4 per lb.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD.—Sheet, English, 4 lb. and up.....	24 5 0
Pipe in coils	23 15 0
Soil pipe	29 10 0
Compo pipe	30 0 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra, and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton } £14 5 0

PAINTS, &c.

	£ s. d.
Raw Linseed Oil, in pipes .....per gallon	0 3 0
" " " in barrels .... "	0 3 2
" " " in drums .... "	0 3 4
Boiled " " in barrels .... "	0 3 5
" " " in drums .... "	0 3 7
Turpentine, in barrels ..... "	0 3 9
" in drums (10 galls.) "	0 3 11
Genuine Ground English White Lead, per ton	49 0 0
(In not less than 5-cwt. casks.)	
Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.	
GENUINE WHITE LEAD PAINT. "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered	£ s. d. 68 0 0
Red Lead, Dry (packages extra) .. per ton	37 0 0
Best Linseed Oil Putty ..... per cwt.	0 13 0
Size. XD quality ..... fkn.	0 3 6

VARNISHES, &c.

	Per gallon.
Oak Varnish .....Outside	0 14 0
Fine Do. ..... Do.	0 16 0
Fine Copal ..... Do.	0 18 0
Pale Copal ..... Do.	1 0 0
Pale Opal Carriage ..... Do.	1 4 0
Best Do. ..... Do.	1 12 0
Floor Varnish .....Inside	0 18 0
Fine Pale Paper ..... Do.	0 18 0
Fine Copal Cabinet ..... Do.	1 2 0
Fine Copal Flatting ..... Do.	1 0 0
Hard Drying Oak ..... Do.	0 18 0
Fine Hard Drying Oak ..... Do.	0 19 6
Fine Copal Varnish ..... Do.	1 0 6
Pale Do. ..... Do.	1 12 0
Best Do. ..... Do.	1 2 6
Best Japan Gold Size	0 12 6
Best Black Japan	0 10 0
Oak and Mahogany Stain (water)	0 12 0
Brunswick Black	0 7 6
Berlin Black	0 14 0
Knotting (patent)	0 15 0
French and Brush Polish	0 12 0
Liquid Dryers in Terebene	0 9 0
Cuirass Black Enamel	0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY & SELECTED GLAZING QUALITY.

per ft. super		per ft. super
15 oz. O.G.Q..... 2¾d.	32 oz. O.G.Q.	6¾d.
15 " S.G.Q. .. 2¾d.	32 " S.G.Q.	7¼d.
21 " O.G.Q..... 3¾d.	Obscured Sheet, 15 oz.	3¼d.
21 " S.G.Q. ... 3¾d.	" " 21 "	4¼d.
26 " O.G.Q..... 4¼d.	Fluted, 15 oz. 6¼d., 21 oz.	9d.
26 " S.G.Q. ... 5d.	Em'ld 15 oz. 4¼d., 21 oz.	5¼d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
Rolled plate ⅛ in.	4¼d.
Rough rolled ⅛ in.	5¼d.
Rough rolled, ¼ in.	5¼d.
Figured, Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White ..	5¼d.
Do. tinted	8d.
Rolled Sheet	5d.
White Rolled Cathedral	5d.
Tinted Do.	7¼d.
Cast plate is same price as rough rolled.	

"VITA" GLASS.	per ft. s. d.
Clearsheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate—not exceeding 1 foot	1 6
Do. do. 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide	2 9

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. for the Building Industry from February 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/7	1/6½	1/6	1/5½	1/5	1/4½
Labourers	1/2½	1/1½	1/1½	1/1	1/0¾	1/0½

Aberdeen .....A	Dundee .. ....A	Hawick .....A²
Airdrie .....A	Dunfermline ....A	Helensburgh ....A
Alexandria ....A	Dunoon .....A	Inverness .....B
Arbroath.....A	East Lothian ..A	Kilmarnock ....A
Ayrshire .....A	Edinburgh .....A	Kincardineshire A
Bathgate.....A	Falkirk .....A	Kinross-shire ....A
Bo'ness .....A	Forfarshire ....A²	Kirkcaldy ....A
Broughty Ferry A	Fort William ....B	Lanarkshire ....A
Clackmannanshire A	Galashiels .....A²	Leith .....A
Coatbridge .....A	Glasgow .....A	Midlothian .....A
Dumbartonshire A	Greenock .....A	Motherwell ....A
Dumfries.....A²	Hamilton .....A	Peeblesshire ....A²
Dumfriesshire ..A		

Perth .....A	
Perthshire .....A²	
Peterhead .....A²	
Renfrewshire ....A	
Rothesay .....A	
Roxburghshire ..A²	
St. Andrews A	
Selkirkshire ....A	
Stirling .....A	
Stirlingshire, West A	
West Lothian....A	
Wishaw .....A	

The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 892.

THE SCOTTISH BUILDER

NEW BUILDINGS

ABERDEEN.—RECONSTRUCTION.—The E.C. has agreed to forward to the Education Department for approval, plans for the reconstruction of the High School for Girls. The Committee also approved of a site at the corner of Oscar-road, Torry, as suitable for a nursery school. The reconstruction scheme is to cost £115,000.

ABERDEEN. — BUILDING. — Mr. T. Scott Sunderland, F.R.I.B.A., Amicable House, Union-street, Aberdeen, is the architect for a milk bar, at £2,000, on a site near the parking-place between the pony track and the shops at the Beach.

AYR.—CONVERSION. — Sundrum Castle has been acquired by Mr. S. H. Lee, Park Hotel, London, and is to be converted into an up-to-date hotel.

BARRHEAD.—SCHOOLS.—Plans are to be prepared for a new public school at St. John's. Mr. William Brown, architect, Gilmour-street, Paisley.

BRIDGE OF WEIR.—HOUSES.—Plans are in hand for 70 houses. Mr. John Coutts, architect, Hunter's-street, Paisley.

BROXBURN.—BUILDING.—The Broxburn and Uphall Council for Community Service has had plans approved for buildings to form a model occupation centre at West End. The total cost of the buildings and equipment is £3,400.

CLYDEBANK.—HOUSING.—The T.C. has received the approval of the Department of Health to acquire the site in Drumry-road, extending to fully 79 acres, for housing purposes.

COATBRIDGE.—BUILDING.—The Dean of Guild Court has passed plans for the Lanarkshire C.C., for extension and alterations at Whifflet public school, at £10,448; and a girls' junior instruction centre in Main-street, Coatbridge, on the Crown Ironworks site.

DALKEITH.—HOUSES.—The T.C. has decided to build 56 houses on the High-street site and on adjoining sites.

DALKEITH.—SCHOOL.—The authority of Mid-Lothian are to erect for the district a new public school, for which the architect is Mr. William Scott, Drumsheugh-gardens, Edinburgh.

FALKIRK. — HOUSES. — The T.C. have agreed to proceed with the laying out of 14 new streets to the south-east section of the town. The ground to be utilised is about 80 acres in extent, and the type of houses to be built will be of the cottage and flatted type. There will be 700 houses.

FORT WILLIAM.—HOUSES.—The T.C. has decided to proceed with 40 houses.

GALASHIELS.—LIBRARY. — The Corporation, of which Mr. James Watson, Municipal Buildings, Galashiels, is the Burgh Architect, has plans in hand for the erection of a new public library and offices.

GLASGOW.—BUILDING. — The Dean of Guild Court has passed plans for 250 houses, a school and a church. The houses, which will be in blocks of three stories, will be erected for the Corporation in Kelvindale and Carlisle-street, North. At Kelvindale there will be 99 of three apartments and 42 of four apartments, and in Carlisle-street 66 of four apartments and 52 of three apartments. The new school, which will provide for the housing area at Carnwadric, is for elementary pupils. Accommodation will be provided for over 1,000 children. Application for the new church was made by Springburn United Free Church. The Church of Scotland General Trustees also received permission to erect a church hall and offices in Gourlay-street at Millerbank-street. Two additional rooms are also to be provided at the Mitchell Library. Among other linings granted were :—Jas. Y. Keanie, building contractors, four single and six double houses in

(*Continued on page* 901.)

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	8	0
Add if in clay	„ „	1	0
Add for every additional depth of 6 ft.	„ „	0	6
Planking and strutting to trenches	per foot super	0	3
Do. to sides of excavation, including shoring	„ „	1	0

CONCRETOR.

Portland cement concrete in foundations 1 to 6	per yard cube	24	0
Add if in underpinning in short lengths	„ „	5	0
Add if in floors 6 in. thick	„ „	2	0
Add if in beams	„ „	2	6
Add if aggregate 1 : 2 : 4	„ „	8	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	„ „	1	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	26	0	0
Add if in stocks	„	6	0	0
Add if in Staffordshire blues	„	22	0	0
Add if in Portland cement and sand	„	1	5	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	„ „	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—

Fair external in half brick rings	„ „	0	0	10
Axed in stocks	„ „	0	0	9
Rubbed and gauged jointed in putty camber or segmental	„ „	0	5	9

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	„ „	0	0	11
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	„	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	„ „	9	6
Three-quarter-inch on flats in two thicknesses	„ „	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	„ „	1	0

MASON.

		s.	d.
York stone templates fixed	per foot cube	12	9
York stone sills fixed	„ „	22	0
Bath stone and all labour fixed	„ „	10	6
Beer stone and all labour fixed	„ „	15	0
Portland stone fixed	„ „	15	6
Chilmark stone fixed complete	„ „	13	6

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap. including nails	per square	70	0
Do. 20 in. × 10 in. Do. Do.	„	71	6
Do. 24 in. × 12 in. Do. Do.	„	73	6

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	3	6
Do. joists	„ „	4	0
Do. roofs, floors and partitions	„ „	4	6
Do. trusses	„ „	6	9

		¾″	1″	1¼″	2″
Deal rough close boarding	per sq.	30/-	35/-	43/-	70/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	„	50	0
Do. to beams	per ft. sup.	0	8
Centre for arches	„	1	6
Gutter boards and bearers	„	1	0

FLOORING.

		¾″	1″	1¼″	1½″
Deal-edges shot	per sq.	—	38/-	45/-	52/-
Do. tongued and grooved	„	—	43/-	50/-	58/-
Do. matchings	„	40/-	45/-	—	—
Moulded skirtings, including backings and grounds	per ft. sup.	1/4	1/7	1/9	2/3

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	9
Two Do. Do. Do.	„ „	2	0
Add for fitting and fixing	„ „	0	2
Deal cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights, average size		3	3

DOORS.

		1¼″	1½″	2″
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	„	2/4	2/6	2/9
Two-panel moulded both sides	„	2/6	2/9	2/11
Four-panel Do. Do.	„	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	12	0

		1″	1¼″	1½″
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	„	1/2	1/4	1/7
Add if cross-tongued	„	2d.	2d.	2d.

STAIRCASES.

		1″	1½″	1½″	2″	2½″
Deal treads and risers in and including rough brackets		2/0	2/3	2/8	—	—
Deal strings wrot on both sides and framed		1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. x 1½ in.	per ft. run	0	9
Mahogany handrail, average 3 in. x 3 in.	„ „	5	6
Add if ramped	„ „	11	0
Add if wreathed	„	22	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	0
Plain compound girders	„	18	0
Do. stanchions	„	20	9
In roofwork	„	26	6

RAIN-WATER GOODS.

		3″	4″	5″	6″
Half-round plain rebated joints	ft. run	1/-	1/1	1/3	1/6
Ogee Do. Do.	„	1/2	1/3	1/9	2/3
Rain-water pipes with ears	„	1/3	1/10	—	—
Extra for shoes and bends	each	2/9	3/11	—	—
Do. stopped ends	„	1/1	1/4	1/9	2/6
Do. nozzles for inlets	„	2/2	2/7	3/7	4/-

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	35	6
Do. do. flats	„	34	6
Extra labour and solder in coated cesspools	each	6	0
Welt joint	per ft. run	0	4
Soldered seam	„ „	1	6
Copper nailing	„ „	0	3

		½″	¾″	1″	1½″	2″	4″
Drawn lead waste	per ft. run	10½	1/2	1/9	2/5	3/-	—
Do. service...	„	1/3	1/8	2/2	3/2	—	—
Do. soil	„	—	—	—	—	—	6/-
Bends in lead pipe	each	—	—	—	—	2/3	5/6
Soldered stop ends	„	0/7	0/11	1/3	2/-	2/6	—
Red lead joints	„	0/9	0/10	1/1	1/7	1/10	3/6
Wiped soldered joints	„	2/-	2/6	2/9	3/5	4/3	6/-
Lead traps and cleaning screws	„	—	—	—	10/-	13/-	—
Bib cocks and joints	„	6/-	9/-	13/-	—	—	—
Stop cocks and joints	„	10/6	12/6	17/6	50/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	0
Do. Do. Sirapite	„ „	2	3
Do. Do. Keen's	„ „	3	0
Add saw lathing	„ „	1	4
Add metal lathing	„	2	4
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	„ „	1	7
Do. plain face	„ „	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	4	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	6½
26-oz. Do.	„ „	0	7½
Obscured sheet	„ „	0	8
⅛-in. rolled plate	„ „	0	9
¼-in. rough rolled or cast plate	„ „	0	10
¼-in. wired cast plate	„ „	1	1

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	7½
Knotting and priming	„ „	0	7
Plain painting, 1 coat	„ „	0	9
Do. 2 coats	„ „	1	2
Do. 3 coats	„ „	1	9
Do. 4 coats	„ „	2	4
Graining	„ „	2	3
Varnishing twice	„ „	1	9
Sizing	„ „	0	3
Flatting	„ „	0	7
Enamel	„ „	1	1
Wax polishing	per foot sup.	0	6
French polishing	„ „	1	2
Preparing for and hanging paper	per piece 2/- to	4/-	

These prices apply *to new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Act, and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW BUILDINGS IN SCOTLAND

(*Continued from page* 899.)

Hillington-road; Education Department, clinic in Florence-street; Baths Department, alterations and additions in baths, Moncrieff-place; Steel Company of Scotland, extension to premises in Blochairn-road; and Scottish Co-operative Wholesale Society, Ltd., alterations and additions to factories, Shieldhall.

GLASGOW.—BUILDING.—The Corporation Finance Committee have approved of the building of new police headquarters for the Eastern Division.

GLASGOW. — EXTENSION. — A £25,000 scheme to extend the Glasgow Ear, Nose and Throat Hospital is to be proceeded with immediately.

GLASGOW.—ALTERATIONS.—The offer of Messrs. Braby and Co., Ltd., Petershill-road, Glasgow, amounting to £3,019, to carry out structural alterations in the Kelvin Hall to increase the seating accommodation of the circus, has been accepted by the General Finance Committee of the Corporation.

GREENOCK.—BUILDING.—A new block of buildings for mental cases is to be erected at the Smithston Institution, at £18,000.

HUNTLY.—HOUSING.—The T.C. has decided to proceed with another development of its housing schemes, for the erection of five blocks of four-apartment houses and six blocks of five-apartment houses on the Castle Park site.

KILSYTH.—HOUSING.—The T.C. has decided to intimate to the Department of Health for Scotland that they intend to build at least a further 100 houses.

KIRKCALDY.—CONVERSION. — The T.C. has purchased Wemyss Park, at the corner of Wemyssfield and Hunter-street. The building is to be converted by the Council for use as the new municipal buildings for the burgh.

LANARKSHIRE.—HOUSING.—The T.C. are to erect 64 houses at Calderbank; 44 at Chapelhall; 56 at Glenmavis; 100 at Thorn-street, and 38 at Academy-street, Bellshill; and six houses at Todhill, Strathaven.—The E.C. are proposing to build a new infant and junior school at Ladywell-street, Motherwell, at £12,500.

LAURENCEKIRK. — HOUSING. — Messrs. Walker and Duncan, 3, Golden-square, Aberdeen, have in hand a small housing scheme promoted by the T.C.

LOCHGELLY. — CHURCH. — The Lochgelly Local Committee of the Fife C.C. passed plans for a new Episcopal Church to be erected at Brucefield, near Lochgelly. A church hall is also to be built, and a grant of £3,000 is to be given by the Home Mission Crusade Fund.

MOTHERWELL.—HOUSES. — The Department of Health for Scotland has approved of the proposals of the T.C. to erect 40 additional houses at the golf course housing area.

PEEBLES.—RECONSTRUCTION.—The C.C. are to reconstruct and add new buildings to form a post-primary school at the High School. The architects are Messrs. Reid and Forbes, FF.R.I.A.S., Great Stuart-street, Edinburgh.

PERTH.—HALL.—The Dean of Guild Court has granted permission to Bridgend Church to erect a church hall on ground between the church and River Tay-street.

RENFREW.—HOUSES.—Plans for 54 houses have been passed by the Dean of Guild Court for the T.C. The houses will be built adjoining the Moorpark-square scheme.

WEMYSS.—HOUSES.—The Wemyss and District Council of the Fife C.C. recommend 116 houses at Boreland, on a site adjoining the east side of the school. In other parts of the Wemyss area sites have been secured for house building by the District Council as follows: East Wemyss, 92 houses at Macduff Park; Methilhill, 112 houses at the west end of the village; and Kennaway, 32 houses.

WICK.—SCHOOL.—The Dean of Guild Court has passed the plans for building extensions to the High School. The estimated cost of the extensions is £17,000.

TRADE NEWS

British Auto-trucks for South Africa.

Messrs. R. A. Lister and Co., Ltd., of Dursley, Glos, have received an order from the organisers of the Empire Exhibition in Johannesburg, South Africa, for 30 passenger auto-trucks. They are to be used for carrying visitors inside the Exhibition grounds.

Chimneys and Cowls.

Messrs. G. A. Harvey and Co. (London), Ltd., Woolwich-road, S.E.7, have issued a new catalogue on "Chimneys and Cowls," in which details are given of, among others, the "Turbine" patent chimney for preventing down-draught and increasing up-draught in troublesome chimneys.

A New Combination Grate.

Triplex Foundry, Ltd., have issued a folder detailing certain novel points which have been incorporated in the "Tweenie" grates, Nos. 7 and 8. These grates fulfil the triple purpose of open fire, oven, and hot-water provider. A number of attractive finishes are available. Details are obtainable from the company at Great Bridge, Staffs.

Changes of Address.

Mr. Wm. Downs has removed to Godliman House, Godliman-street, St. Paul's, E.C.4.

The Ozalid Co., Ltd., makers of positive photo-printing papers and cloths with dry development, have removed to Clarence House, 4, Central-buildings, Westminster, S.W.1. Telephone number unchanged (Whitehall 4872).

Electrical Progress Sheets.

The General Electric Co., Ltd., have issued from Magnet House, Kingsway, W.C.2, a loose-leaf binder for their "progress sheets." These sheets, which will be issued from time to time, will inform architects, builders and the electrical trade of new developments and price variations of "G.E.C." products.

A NEW BOILER.

An unusual pattern of independent boiler, which is called the "Sentry" Duplex No. 6, has been designed and produced by Messrs. Wood, Russell and Co., Ltd., 34, Oxford-street, London, W.1, makers of the "Sentry" boilers of the more usual type. The object of this boiler is to provide for central-heating and hot-water supply from one fire, without having to use an indirect cylinder. There is only one proper way to provide for both services, and that is to have two boilers. The indirect cylinder has come to be used fairly generally because in so many houses there is either no room for two boilers or there is an objection to having two fires to look after.

With the indirect system the domestic supply is not heated directly by the fire in the boiler, but by circulating water from the boiler through an inner jacket in the hot-water cylinder, and it will be readily understood that it takes much longer to get a cylinder full of hot water by this method. In other words, the domestic supply, which was the principal reason for having a boiler at all, is inadequate and unsatisfactory all the year round in order to have a few radiators heated, perhaps, five months in the year.

The "Sentry" Duplex No. 6 actually consists of two separate boilers which operate quite independently in winter, when one boiler serves the radiators and the other provides the hot-water supply, and in summer, when the radiators are not wanted, both boilers are devoted to the hot-water supply. The latter is always directly heated although there is only one fire to look after.

The "Sentry" Duplex No. 6 is suitable for a house with one bathroom, or two bathrooms where one is only occasionally used, served by a hot-water cylinder of about 50/60 gallons capacity, while on the heating side the output, which is estimated under slow-combustion conditions, is put at 125 sq. ft. of radiation. This boiler is made in welded steel for hard water, or for soft water the same boiler can be supplied in welded steel made rustless.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government Departments.*

Aberdeen.—Janitor's house at Linksfield school, for the T.C. Mr. J. A. Ogg Allan, architect, 25, Union-terrace:—

Excavation, brick and mason—
*A. M. Duffus £434 0 0
Joinery, carpentry and ironmongery—
*G. Lyall, Junr. 177 0 0
Lathing and plaster—
*Martin & McLeod 117 16 9
Plumber work and sanitary fittings—
*John F. Anderson, ... 111 0 0
(All of Aberdeen.)

Atherstone.—Lodge at the isolation hospital, for the R.D.C.:—

*R. Holland & Sons £550

Bedford.—168 houses on the London-road estate, for the T.C.:—

*A. P. C. Wray, Ltd., Hertford £56,546

Belfast.—Extensions to the Municipal Sanatorium:—

*H. & J. Martin, Ltd., Belfast.

Birmingham.—Church building, for the Catholic Authorities of the Church of St. Mary and John, Gravelly Hill. Mr. Victor S. Peel, architect, 17, Temple-street, Birmingham, 2:—

*T. T. Sculley, Datchett, Bucks.

Blackpool.—Modernisation of Talbot-road goods station, for the L.M.S. Railway Co. Mr. A. K. Wallace, Chief Civil Engineer, Euston Station, London, N.W.1:—

*Atherton Bros. (Blackpool), Ltd., Blackpool.
(Estimated cost: £20,000.)

Bourne.—44 houses and 10 bungalows on the Harrington-street site, for the U.D.C.:—

	44 houses	10 bungalows.
Winton Hayes, Ltd., Ampthill...	£15,466	£3,205
Fosters, Ltd., Huntingdon	15,796	2,700
H. Fidler & Son, Luton	14,916	2,730
G. A. Campion, Peterborough ...	14,900	2,400
R. Hustwayte, Sherwood	14,780	2,467
P. P. Taylor, Ltd., Doncaster ...	14,740	2,340
W. Foster & Sons, Grantham ...	14,730	2,333
*J. W. Barber, Peterborough ...	14,445	2,548

Bradford.—Nurses' home at the St. Luke's hospital, for the Corporation. Mr. Fletcher, City Architect:—

*Frank Robinson & Sons, Ltd.

Brierley Hill.—26 houses at Quarry Bank, for the U.D.C.:—

*Arthur Webb & Sons, Quarry Bank ... £7,998

Brierley Hill.—26 houses at Quarry Bank, for the
*M. A. Boswell, Wolverhampton £55,323

Bristol.—Assembly hall at Shirehampton Council infants' school, for the T.C.:—

Builder's work—
*T. Weeks & Sons, Ltd. £1,675
Heating engineer's work—
*S. Boxell & Co. 177

Bristol.—Four-story building containing 60 flats in Upper Cheese-lane, for the T.C.:—

*Stone & Co. (Bristol), Ltd. £23,250

Caistor.—Eight houses in Waddingham, South Kelsey and North Owersby, for the R.D.C.:—

*Gilding & Hill, Scunthorpe £2,404
(Subject to M.H. approval.)

Cannock.—12 non-parlour type houses at Broad-lane, Essington, for the R.D.C.:—

†H. Cook, Walsall £3,533 10

Catrine.—Houses, for the C.C. Mr. William Reid, County Architect, Wellington-square, Ayr:—

Excavation, brick and mason—
*G. Reid, Catrine £5,014
Slater work and roughcasting—
*A. Ballantyne, Ayr 1,379
Lathing and plaster—
*Brown & Co., Newmilns 1,445
Joinery, carpentry and ironmongery—
*F. Chisholm, Catrine 3,197
Glazing—
*G. G. Kirk, Ltd., Kilmarnock 100
Steel casements and windows—
*MacLean & Co., Linwood 397
Wood fencing, etc.—
*J. McBryde, Kilmarnock 149
Electrical fittings and installation—
*W. Ross, Kilmarnock 382
Painter—
*A. F. MacDonald, Prestwick 249
Plumber work and sanitary fittings—
*A. Ruthven, Prestwick 2,159
Iron railings, gates, etc.—
*P. & R. Fleming, Glasgow 370

Clitheroe.—26 houses and six bungalows on the Edisford-road site, for the Corporation. Mr. F. W. Goodman, A.M.I.C.E., Borough Surveyor:—
*J. Bleazard & Sons, Clitheroe.
(Estimated cost: £11,908.)

Clutton.—Houses, for the R.D.C.:—
8 at Cameley—
*Andrews Bros., Midsomer Norton... £2,499 12
12 at Chew Magna—
*A. J. Penny, Stanton Drew 3,774 0

Consett.—Extension to garage, for the Northern General Transport Co. Messrs. A. H. Fennell & Co., architects:—
Contractors—*Gordon Durham & Co., East Boldon.
Reinforced concrete engineers—*Trussed Concrete Steel Co., Ltd.

Corby.—New senior school in Rockingham-road, for the Northants E.C.:—
Main contract—*A. Richmond & Sons.
Heating installation—*S. Booth & Sons.
Domestic hot water supply—*J. Shouksmith & Sons, Ltd.
Fencing—*Hill & Smith, Ltd.
Boundary wall—*A. Richmond & Sons.

Croydon.—Works, for the C.B.:—
Sub-station at the South Norwood sewage works—
‡D. Waller £340 0
Alterations in the turbine room to accommodate the new 30,000 kw. turbo-alternator—
‡J. Gerrard & Sons, Ltd. 4,250 0
Demolition of 36 and 37, Albion-street—
‡T. J. Gaskell, 72, Wellesley-road, Croydon 10 0
Six reinforced concrete sludge digestion tanks and three heater houses at Beddington sewage works—
*William Moss & Sons, Ltd., Cricklewood, N.W.2 ..... 20,837 0
Fencing on the Spa-hill allotments—
*T. W. Palmer & Co. 415 8

Driffield.—12 houses, for the U.D.C.:—
*H. Leason & Son.

Dumfries.—Reconstruction and new buildings to be erected in Academy-street, for the C.C. Mr. John A. Hill, County Architect, Dumfries:—
Excavation, brick and mason—
*Brown, Fraser & Co., Glasgow £19,409
Plaster work and asphalt—
*A. Hannah, Dumfries 3,546
Steel construction—
*Redpath, Brown & Co., Ltd., Glasgow 2,458
Plumber work and sanitary fittings—
*P. Meechan, Dumfries 2,823
Joinery, carpentry and ironmongery—
*T. Findlay & Son, Mauchline 11,420
Slater work, roughcasting, etc.—
*T. McKinnon & Son, Lockerbie 607
Painter—
*E. R. Bell, Dumfries 877

Ealing.—Works, for the T.C.:—
Greenhouse at Brent Lodge-park—
C. & T. Ware £360 17
A. Harris 353 16
Wm. Wood & Son, Ltd. 337 10
Duncan & Tucker, Ltd. 323 0
*Bolton & Paul, Ltd., Norwich ... 296 0
Bandstand in Elthorne-park—
C. & T. Ware 645 18
Wm. Wood & Son, Ltd. 495 16
*A. E. Brown, West Ealing 427 10
Erection of the Cuckoo schools—
S. E. Moss & Son 61,812 0
E. H. Burgess, Ltd. 59,840 0
Haymills, Ltd. 59,760 0
F. D. Hidden & Co., Ltd. 59,507 0
W. J. Dickens 59,870 0
A. B. Hanson & Co. 57,600 0
*Evan Thomas & Sons 57,587 0

Elham.—Erection of Council chambers and offices and detached house at Eastbrook, Lyminge, for the Council. Mr. A. D. Johnson, architect, The New Hall, Lyminge, Folkestone:—
*Jenner & Co., Folkestone.

Exminster.—Extension to the museum at Devon Mental Hospital. Mr. H. V. de Courcy Hague, F.R.I.B.A., County Architect, Exeter:—
Floors—*Truscon Precast.

Falkirk.—Premises in Graham-road, for Messrs. Allied Ironfounders, Ltd. Mr. John G. Callander, architect and measurer, Newmarket-street:—
Excavation, brick and mason—*J. J. & P. McLachlan, Ltd., Larbert.
Joinery, carpentry and ironmongery—*A. Laing.
Slater—*J. K. Miller, Ltd.
Plumber work and sanitary engineering—*G. Robertson & Co. (Falkirk), Ltd.
Lathing, plaster and cement—*J. K. Miller, Ltd.
Glazier—*David O'May, Ltd.
Steel construction—*Brownlie & Murray, Ltd., Glasgow.
Tile, granite and terrazzo—*Galbraith & Winton, Ltd., Glasgow.
Heating engineering and installation—*J. Coombe & Son, Ltd., Glasgow.
(Remainder of Falkirk.)

Gateshead.—Warehouse extensions, for Messrs. Elder, Walker & Co., Ltd. Mr. J. N. Fatkin, L.R.I.B.A., architect, 17, Brigg Market, Newcastle-on-Tyne, 1:—
Contractors—*Wm. Hall (Contractors), Ltd., Gateshead.
Reinforced concrete engineers for floors—*Trussed Concrete Steel Co., Ltd.

Glasgow.—Reconstruction and additions at the Kinning Park Bakery, for the Scottish Farmers Dairy Co., Ltd., 436, Scotland-street, Tradeston. Messrs. Miller & Black, architects, 132, West Regent-street, Glasgow:—
*W. Stevenson, 57, King-street, Rutherglen.

Gourock.—Excavation, brick and mason works in connection with the reconstruction and extensions to "Queen's" hotel, Ashton. Mr. Alexander MacGregor, architect, Cathcart-square:—
*A. Dewar, 2nd Avenue, Cathcart.

Hanworth.—Alteration and improvement of Council school for use as an infants' school, for the Middlesex C.C.:—
*G. Godson & Son, Ltd., Kilburn £7,408

Hayling Island.—Erection of a suntrap special school, for the Tottenham E.C.:—
Stanley Ellis, Ltd. £29,506 0
W. H. Gaze & Sons, Ltd. 28,804 0
A. P. C. Wray, Ltd. 27,568 10
David Fry & Son 27,444 0
R. Holford & Co. 26,518 0
Chapman, Lowry & Puttick 26,473 0
W. G. Sheppard 26,299 0
H. W. Fisk 26,205 14
‡R. O. Garrard 25,990 5

Hull.—Central premises, for the Hull Co-operative Society, Ltd. Mr. W. A. Johnson, F.R.I.B.A., architect:—
Contractors—*F. Hall & Sons, Hull.
Floors—*Truscon Precast.

Isle of Ely.—Extensions to County Hall, March, for the C.C.:—
*E. Coleman, East Kirkby, Notts.

Kilrush.—64 houses, for the U.D.C.:—
*P. C. Mahon, Ennis £16,732

Kirkcaldy.—276 houses in King-street, for the T.C. Messrs. Deas & Bertram, architects, Kirkcaldy:—
Mason and brickwork—
*F. Walker, Kirkcaldy £40,375 18 6
Joiner—
*A. Arnot, Cardenden 29,232 1 3
Glazier—
*Elville & Fraser, Kirkcaldy 699 7 9
Plaster—
*J. F. Stobie & Co., Kirkcaldy 7,200 15 11
Painter—
*N. Nicholson, Kirkcaldy 2,214 6 2
Fencing—
*A. Mowat, Windygates 1,036 16 11
Roads and sewers—
*R. J. Morrison, Kirkcaldy 19,101 19 11

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SECURE CONTRACTS WITH
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THE STEEL SCAFFOLDING CO., LTD.
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Leeds.—Offices and works, for Messrs. Heaps, Arnold & Heaps. Mr. C. Castelow, A.R.I.B.A., architect, 10, Park-row:—
Contractors—*W. Thompson & Sons, Leeds.
Floors—*Excellence Reinforced Concrete Co., Ltd.

Leeds.—Installation of 88 electric passenger lifts in the Leeds Quarry Hill Buildings, containing 1,000 flats in course of construction, for the T.C. Mr. R. A. H. Livett, A.R.I.B.A., Housing Director, 26, Great George-street:—
*Keighley Electrical Engineering Co., Keighley.

Leek.—Head offices on the Stockwell House site, Stockwell-street, for the Leek and Moorlands Building Society. Mr. W. Ingham, architect, Market-place:—
*T. Grace, Leek.

Lifford.—School, for the Christian Brothers:—
*P. Molloy & Sons, Limerick £7,000

Little Lever.—38 houses, for the U.D.C.:—
*J. G. Holland & Son (1936), Ltd., Bolton.

Liverpool.—New headquarters, for the 5th King's Liverpool Regiment. Mr. Gilbert Fraser, M.C., F.R.I.B.A., architect:—
Contractors—*John Lewis & Sons, Liverpool.
Floors—*Truscon.

¶London.—The following works contracts have been placed by the War Office during the week ended April 23:—
Chatham—St. Mary's Barracks—block of married soldiers' quarters, J. B. Edwards & Co. (Whyteleafe), Ltd., London, W.1.
Tidworth—Assaye and Mooltan Barracks—conversion of stables and harness rooms into garages, offices and stores, W. E. Chivers & Sons, Ltd., Devizes.
Aldershot—Stanhope Lines—extension of garages, J. B. Edwards & Co. (Whyteleafe), Ltd., London, S.W.1.
H.M. Factory, Irvine—construction of standard gauge railway and alteration of buildings, Crowley, Russell & Co., Ltd., Glasgow.

¶London.—Tenders accepted by H.M.O.W. for the week ended April 23:—
Builth Wells Post Office and Telephone Exchange—erection—Griffith Davies & Co., Ltd., Paxton-yard, Swansea.
Clacton-on-Sea Post Office and Telephone Exchange—H. Bradford, Mayes-lane, Harwich.
Scourers—supply and delivery—E. Wilman & Sons, Ltd., Station Mills, Hadfield, Manchester.
Hemel Hempstead Post Office—erection—J. Honour & Son, Ltd., Tring.
Reversible labelling fillets (flanged) — G. Johnson Bros., 69, Old-street, E.C.1.
Telephone Operators' chairs — Tan-Sad Chair Co. (1931), Ltd., Avery House, Clerkenwell Green, E.C.1.
Steel tables and table racks for P.O. Savings Bank, West Kensington—Milners' Safe Co., Ltd., 12/13, Newgate-street, E.C.1.
Chairs (for R.A.F.)—Owen Haines & Son, Green-street Chair Works, High Wycombe; and A. & F. Howland (Wycombe), Ltd., Eaton-avenue Chair Works, High Wycombe.
Birmingham Joint Postal & Engineering Garage—installation of heating and hot-water service—F. Evans & Sons, 10-12, Gas-street, Birmingham, 1.
Writing tables (American oak)—The Leicester Cabinet Co., Ltd., Batten-street, Leicester.
Recreation tables for R.A.F.—The Fairfield Shipbuilding and Engineering Co., Govan, Glasgow, S.W.1.; and G. M. Hammer & Co., Ltd., Crown Works, Hermitage-road, Harringay, N.4.
Brighton Joint Post Office Garage—metal casements—The Standard Metal Window Co., Houghton-street, West Bromwich.
Herne Hill B.P.O.—alterations—F. J. Moreton & Son, 171, Gipsy-road, West Norwood, S.E.27.
Southall P.O. and Sorting Office—installation of heating and hot-water services—C. A. Christiansen, Norwood Green, Southall.
Ministry of Agriculture Veterinary Laboratory, West Weybridge—fittings—Charles Hearson & Co., Ltd., 68, Willow-walk, Bermondsey, S.E.1.
Woolwich T.E.—steel casements, etc.—Williams & Watson, Ltd., 77-79, Victoria-street, Liverpool, 1.
Hounslow I.R.O., Montague-road—extension—W. S. Try, Cowley, Uxbridge.

¶London.—List of new contracts to the value of £500 or over placed by H.M. Air Ministry for the week ended April 18:—
Debden—erection and completion of pump house and clothing and annexes to three aero sheds—J. Gerrard & Sons, Ltd., Pendlebury-road, Swinton, Manchester.
Pump house at Upwood—T. Lowe & Sons, Ltd., Curzon-street, Burton-on-Trent.
Pump house at Hemswell and Scampton—Dredging & Construction Co., Ltd. Artillery House Artillery-row, Westminster, S.W.1.

London.—Small additions at Torrington-wharf, 36, West Ferry-road, Poplar, E.14. Plans by staff architect:—
*Killby & Gayford, Ltd., 87, Worship-street, E.C.2.

London.—Demolition of buildings on the Poplar High-street and Harrow-lane sites, for the Poplar B.C.:—
*C. Griffiths, 32-34, Ben Jonson-road E.1 £240

London.—Works for the Hackney Convenience for both sexes on the open space on the northern side of the new town hall at the junction of Wilton-road and Hackney-grove— B.C. :—

*Dove Bros., Ltd.

Building work in respect of the Ottaway-street sub-station :—

J. A. Dumayne	£777	0	0
W. M. Brand	760	0	0
J. Jarvis & Sons, Ltd.	727	0	0
Barvis Partners, Ltd., Romford	672	0	0
*S. W. Stedman, High-road, Chadwell Heath	646	0	0

Works on the Clapton Common housing scheme. Messrs. Josephs, architects—

General contractors—

*Higgs & Hill, Ltd.	19,547	0	0

Tile wall linings, pavings, sills and skirtings—

*W. B. Simpson & Sons, Ltd.	1,562	10	4

Fire resisting flats, floors, etc—

Frazzi, Ltd.	4,145	13	8
F. Bradford & Co., Ltd.	3,657	1	2
Achilles Concrete Construction Co., Ltd.	3,656	15	7
Caxton Floors, Ltd.	3,384	15	3
The Kleine Co., Ltd.	3,312	12	6
*Attoc Blocks, Ltd.	3,262	9	7

Asphalte—

Constable, Hart & Co., Ltd.	797	16	6
The Limmer and Trinidad Lake Asphalte Co., Ltd.	781	9	8
Highways Construction, Ltd.	778	12	1
The Neuchatel Asphalte Co., Ltd.	770	7	2
Ragusa Asphalte Paving Co., Ltd.	738	4	7
George Drewitt (Asphalters), Ltd.	458	14	2
Engert & Rolfe, Ltd.	449	2	8
*The Natural Rock Asphalte, Ltd.	447	10	9

Artificial stonework—

The Patent Victoria Stone Co., Ltd.	322	15	3
F. Bradford & Co., Ltd.	235	12	9
Emerson & Norris, Ltd.	232	10	1
Dows Granolithic, Ltd.	225	4	9
Tarmac, Ltd.	202	19	7
Croft Granite, Brick and Concrete Co.	198	18	8
Malcolm Macleod & Co., Ltd.	198	8	2
The Romford Artificial Stone Works	171	12	10
*The Alexandra Stone Co. (Barking), Ltd.	168	3	4

Joinery—

S. W. Stedman	5,494	13	11
The Ware Joinery Works, Ltd.	3,992	14	9
H. Darby & Son	3,684	14	7
J. R. Smith & Co.	3,614	0	0
W. H. Newton, Ltd.	3,197	10	0
The South Eastern Joinery Works	2,942	11	11
W. M. Brand	2,869	0	0
Shapland & Petter, Ltd.	2,847	2	6
The Midland Joinery Works, Ltd.	2,845	5	0
*Rippers, Ltd.	2,700	18	9
A. H. Hamer, Ltd.	2,615	0	10

Plastering, screeds, etc., and granolithic—

Malcolm Macleod & Co., Ltd.	2,739	8	2
The Croft Granite, Brick and Concrete Co., Ltd.	2,702	12	8
*Plastering, Ltd.	2,539	0	0
G. Alexander	2,104	8	0

Baths, sinks, lavatory basins and W.C.s—

Tylors (Water and Sanitary), Ltd.	867	0	0
Rownson, Drew & Clydesdale, Ltd.	826	11	3
Milton Syer, Ltd.	794	9	0
John Knowles & Co. (London), Ltd.	763	1	1
Wiggins-Sankey, Ltd.	753	14	8
W. N. Froy & Sons, Ltd.	750	5	1
General Light Castings Co.	742	14	5
*S. A. Clark, Ltd.	724	11	5

Balustrades to staircases, boundary railings and gates and balconettes—

Walter Macfarlane & Co.	883	13	9
Hill & Smith, Ltd.	793	5	9
Allen & Greaves, Ltd.	790	10	2
Carron Co.	570	4	10
*William Gratrix & Sons, Ltd.	519	10	2

Electric lighting and power—

W. H. Bright	1,934	18	0
The Ilford Electrical Co., Ltd.	1,836	14	3
Pernot & Co.	1,805	5	10
J. H. Golding	1,804	10	0
Henfry Electrical Installations	1,772	9	10
A. Gordemer	1,763	14	5
J. H. Plant, Ltd.	1,709	16	11
John Holder & Co., Ltd.	1,625	14	0
Overhead, Ltd.	1,495	0	0
The Alpha Manufacturing and Electrical Co., Ltd.	1,461	14	9
W. Dennison & Son	1,421	0	0
Philpot Bros.	1,337	4	4
Archer Electric, Ltd.	1,317	18	10
D. Bruce	1,316	0	6
Electrical Installations, Ltd.	1,228	8	0
Thorpe & Thorpe, Ltd.	1,182	0	0
S. & M. Lee	1,176	17	6
Carr Bros.	1,175	14	0
F. H. Wheeler & Co., Ltd.	1,120	12	0
Constable, Hart & Co., Ltd.	1,072	19	2
J. E. D. Installations	1,044	0	0
*Holliday, Hall & Stinson, Ltd.	1,021	13	1
Holmes & Larkinson	910	14	4
T. T. Reedy	828	0	0
D. Hall	714	0	5

Loughborough.—Reconstruction of Longcliffe Hotel. Messrs. Baily & Eberlin, architects, 3, College-street, Nottingham :—

*W. Moss & Sons, Ltd., Loughborough.

Macclesfield.—Reslating of 45 houses on the Byron-street estate, for the T.C. :—

*Hardgrave, Ltd., York £1,056 17 4

Margate.—37 brick sheds at rear of houses on the St. Peter's-footpath site, for the T.C. :—

*Miles & Peall £374

Middlesbrough.—New tailoring factory, for Messrs. Prices (Tailors), Ltd., Kirkstall-road, Leeds. Mr. Nicholle, architect, Head Office, Cardigan Fields, Kirkstall-rd., Leeds :—

*Wm. Irwin & Co., Ltd.

Middlesex.—Works, for the C.C. :—

Provision of sink rooms in North and South Blocks at Clare Hall Sanatorium—

S. Warboys & Sons, Potters Bar	£227	7	6
C. Miskin & Sons, Ltd., St. Albans	210	0	0
W. J. Wiggs & Co., Radlett	192	8	0
*H. E. Winskell, Barnet	179	3	4

Annual repairs and redecorations at the Nurses' Home at North Middlesex County Hospital—

W. E. Silk, Ltd., N.22	1,398	0	0
G. Godson & Sons, Ltd., W.10	1,130	0	0
Newby Bros., Ltd., N.14	1,092	0	0
L. & W. Whitehead, Ltd., S.W.9	1,036	0	0
Albert Monk, N.9	1,018	0	0
*D. C. Martin & Sons, Ltd., W.9	1,005	0	0

Modernisation work at "B" block, West Middlesex County Hospital—

Turner & Payne, N.12	4,693	15	8
A. & B. Hanson, Ltd., Southall	4,677	0	0
Thorogood Bros. & Sons, Surbiton	4,650	0	8
W. S. Try, Uxbridge	4,598	0	0
*E. Plaistowe & Sons, Ltd., Southall	4,559	0	0

Heating installation, also in "B" block—

Comyn Ching & Co., Ltd., W.C.2	687	0	0
The Fretwell Heating Co., Ltd., E.13	632	0	0
Deane & Beal, Ltd., E.C.3	598	12	0
Grant Engineering Co., S.W.1	596	10	0
G. N. Haden & Sons, Ltd., W.C.2.	570	0	0
*Heath & Co., Ltd., Chiswick	544	0	0

Replacement of rubber floor covering in the electrical and X-ray department at West Middlesex County Hospital—

W. J. Dickens, Ealing	693	15	0
E. Plaistowe & Sons, Ltd., Southall	685	0	0
F. H. Davis, Brentford	679	0	0
W. S. Try, Uxbridge	653	0	0
*L. & W. Whitehead, Ltd., S.W.9.	615	0	0

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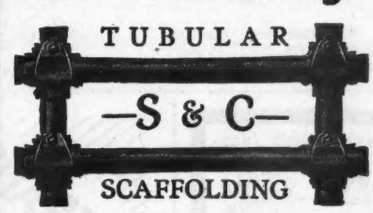

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Electrical work at the maternity block at the same hospital—

G. A. Weston, E.C.3.	615	10	0
Read & Partners, Ltd., S.E.1	588	10	0
W. J. Furse & Co. (London), Ltd., S.W.1	586	10	0
Rashleigh Phipps & Co., Ltd., W.1	577	0	0
T. Clarke & Co., Ltd., S.E.1	552	12	6
*G. E. Taylor & Co., E.C.4	517	12	4

Reorganisation of the kitchen at Redhill Institution—

D. C. Martin & Sons, Ltd., Maida Vale, W.9	510	0	0
Newby Bros., Ltd., Southgate, N.14	469	0	0
F. Cotterell, Ltd., Hornsey, N.8	438	10	0
G. Godson & Sons, Kilburn-lane, W.10	435	0	0
W. S. Try, Uxbridge	434	0	0
*C. Bastable, Harlesden, N.W.10	403	0	0

Work in connection with the erection of new casual wards at Isleworth—

Heating and hot-water services, etc.—

Heating Installations, Ltd., S.E.1	3,331	0	0
H. C. Goodman, Ltd., Reading	3,319	0	0
Ray Heeting Co., Ltd., W.1.	3,289	0	0
Fretwell Heating Co., Ltd., E.13	3,076	0	0
Brightside Foundry & Engineering Co., Ltd., S.W.1	2,919	0	0
Comyn, Ching & Co., Ltd., W.C.2.	2,879	10	0
*Maddock & Wright, Leicester	2,759	15	0

Installation of heating, domestic hot-water, steam and gas services, at extension at Hillingdon County Hospital—

H. C. Goodman, Ltd.	7,925	0	0
Heating Installations, Ltd., S.E.1	5,405	0	0
Clark, Hunt & Co., Ltd., E.1	4,409	0	0
The Ray Heating Co., Ltd., W.1	4,346	0	0
Comyn, Ching & Co., Ltd.	3,791	2	0
*Maddock & Wright, Leicester	3,709	12	0

Additional classrooms, maternity and child welfare centre, school clinic and county library branch, at Lady Bankes School, Dawlish-drive, Ruislip—

Thomas Bros., Sudbury	15,268	9	10
John W. Jones, West Weybridge	13,207	0	0
W. S. Try, Uxbridge	12,336	0	0
Callow & Wright, Ltd., Willesden Green	12,234	0	0
A. E. A. Prowting, Ltd., Ruislip	12,186	19	7
Y. J. Lovell & Son, Gerrards Cross	11,879	0	0
*G. Godson & Sons, Kilburn-lane, W.	11,559	7	5

Alterations and improvements, at Hanworth Council school—

John W. Jones, Weybridge	8,299	0	0
W. J. Marston & Son, Fulham	7,675	0	0
Y. J. Lovell & Son, Gerrards Cross	7,667	0	0
Wm. Lacey (Hounslow), Ltd., Hounslow	7,639	0	0
*G. Godson & Sons, Ltd., Kilburn-lane, W.	7,408	0	0

Alterations to the workshop building at Mogden—

*Sir Robert McAlpine & Sons (London), Ltd., 50, Pall Mall, London, S.W.1.

Monaghan.—10 houses at Kells, for the U.D.C. :—

*J. Devlin, Kells £4,631

Newry.—23 houses, for the U.D.C. :—

*P. M'Kenna & Son, Armagh ... £7,384 14 8

Newton Abbot.—12 houses at Brookings Meadow, for the U.D.C. :—

*Veale & Woodhouse £3,516

Newton Abbot.—Development of Penn Inn Pleasure Ground, for the U.D.C. :—

*Stone & Co. (Bristol), Ltd. £7,975

North Walsham.—Houses, for the Council :—32 dwellings—

*F. A. Thompson, Norwich £8,568 0 0

Water supply—

*M. N. Parker, High Ongar 100 17 6

Sewer extension and road—

*Plumbly & Gaze, North Walsham 1,104 10 10

Renfrew.—60 houses on the Porterfield site, for the T.C. Messrs. Abercrombie & Steel Maitland, architects, County-square, Paisley. Mr. George Fisher, F.I.A.A., measurer, Moss-street, Paisley :—

Excavation, brick and mason—

*R. Loudon, Glasgow £9,380

Lathing, plaster and cement—

*Samuel Holmes, Ruthergien 1,640

Joinery, carpentry and ironmongery—

*K. Gilson & Co., Paisley 5,203

Electrical fittings and installation—

*Waters & Gibson, Renfrew 293

Slater work and roughcasting—

*A. C. Whyte & Co., Ltd., Carmyle 1,370

Iron railings and gates, etc.—

*W. Prentice, The Smithy, Larkhall ... 359

Painter—

*W. McKerracher, Glasgow 340

Plumber work and sanitary fixtures, etc.—

*J. Paterson, Paisley 2,264

Richmond (Surrey).—Conveniences and play shelter at the Vineyard school, for the T.C. :—
*Taylor & Wise, North Wembley £892

Ringside.—16 houses on the Ringside housing site, for the Lanarkshire C.C. Mr. Peter C. Smith, Lanarkshire County Housing Architect, Hamilton :—
Excavation, brick and mason—
*Bryce & Symington, Carluke ... £2,426 14 2½
Joinery, carpentry and ironmongery—
*R. Simpson, Coalburn 1,557 14 3½
Plumber work and sanitary fixtures—
*J. Laing & Son, Wishaw 654 11 6
Slater—
*W. Ballantyne, Ltd., Blantyre 531 17 0½
Plaster and lathing—
*W. Dodds Bertram, Lesmahagow 245 15 9
Electric lighting installation—
*J. Stuart Denholm, Glasgow 105 1 0
Painter—
*J. Scott & Co., Lanark 148 0 4

Rowley Regis.—For (*a*) painting of the exterior of the Rowley Regis central school, and (*b*) the exterior of the Siviters-lane council school, for the E.C. :—
(*a*)—*Hyde Bros., Old Hill £289
(*b*)—*Hyde Bros., Old Hill 159

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Rumney.—Erection of a junior and infants' school, for the Monmouthshire E.C. Mr. Colin Jones, L.R.I.B.A., architect, Architect's Department, Newport :—
Contractors—*W. & A. Davies, Abersychan.
Floors—*Truscon.

Runcorn.—Erection of Evans Biological Institute. Messrs. Gray, Evans & Crossley, architects, 51, North John-street, Liverpool :—
Contractors—*J. Dolan & Son, Ltd., Warrington.
Floors—*Truscon Precast.

Sheffield.—Extension to City Stores in Exchange-street, for Brightside and Carbrook Co-operative Society, Ltd. Mr. W. A. Johnson, F.R.I.B.A., architect :—
Contractors—*Works Department.
Floors—*Truscon Precast.

¶Shotley.—Extension to existing jetty, for H.M. Civil Engineer-in-Chief's Department, Admiralty :—
*Chas. A. Green & Sons, Ltd., 10, St. John's-road, Ipswich.

Slough.—454 houses on the Upton Lea estate :—
*Manor Park Construction Co., Ltd.

South Shields.—Drill hall in Imeary-street, for the 1st Cadet Battalion, D.L.I. Messrs. J. H. Morton & Sons, architects, Martins Bank-chambers, Fowler-street :—
*G. Bailey, Ltd., King-street, South Shields.

Southend-on-Sea.—56 houses on the Southview housing estate, for the C.B. :—
*Ventris & King, Ltd., Riviera-drive, Southend-on-Sea £19,274

Stratford.—Exterior painting and repair of 22 council houses in the parishes of Tanworth and Wootton Wawen, for the R.D.C. :—
*Geo. Coppage £160

Taunton.—Demolition of 40-44 North-street, for the British Home Stores, Ltd. :—
* London Demolition Co., Ltd., London-road, Isleworth.

Thirsk.—Reservoir in connection with the Bagby, Thirkleby and Hutton Sessay, for the R.D.C. :—
*Wm. Birch & Sons, Ltd. £907

Tottenham.—Plastering on section No. 3 of the Weir Hall housing estate, for the T.C. :—
*C. T. Hawkins, Tottenham.

Tynemouth.—26 aged people's houses on the Ridges estate, for the T.C. Mr. D. M. O'Herlihy, Borough Engineer, 19, Howard-street, North Shields :—
*Rigby & Appleton, North Shields.

Ulverston.—64 houses, for the U.D.C. Mr. F. W. Poole, clerk :—
*Baker & Foster, Burnley, Ulverston.

Urmston.—Extensions of works, for Messrs. T. Hedley & Co., Ltd., Collingwood-street, Newcastle-on-Tyne :—
Builders — *J. Gerrard & Sons, Ltd., Manchester.
Plastering—*John Garvey & Co., Sale.
Painting—*A. A. Sharratt, Rochdale.

Wallsend.—Parochial hall and Sunday school in connection with St. Mary's Church, Willington. Mr. A. Sprot, architect, Churchill-road, Willington Quay-on-Tyne, Wallsend :—
*J. Mulhern, jun., High-street East, Wallsend.
Reinforced steel—*Alnwick Construction Co., Ltd., Alnwick.
Windows—*R. Rutherford & Co. (Blyth), Ltd., Blyth.

Walthamstow.—Erection of Countess-road sub-station, for the T.C. :—
*Barvis Partners, Ltd. £1,630

Warrington.—Works at Arpley, for Messrs. Thames Board Mills, Ltd., Purfleet. Mr. J. L. Simpson, architect, Lever Bros., Ltd., Unilever House, Blackfriars, London, E.C.3 :—
*Holland & Hannen and Cubitts, Ltd., London, S.W.1.

Whitby.—Building of 750,000-gallon service reservoir for the Waterworks Co. at Sneaton Castle. Messrs. T. & C. Hawksley, engineers, London :—
*Harold Arnold & Sons, Ltd., Leeds.

Widnes.—Extension of Central School, Kingsway, for the E.C. Mr. J. Holt, Borough Surveyor :—
*S. Powell & Son (Liverpool), Ltd., Liverpool £5,857

Worthing.—24 houses at Findon, for the R.D.C. :—
*D. A. Hopper, Patcham £7,848
(Subject to M.H. approval.)

Yeovil.—128 houses and 12 flats on the Larkhill site, for the T.C. :—
*D. R. Dunthorn & Son, Glastonbury £48,590

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